Pam-F

History Line

A NEWSLETTER OF THE FOREST SERVICE HISTORY PROGRAM

Summer 2004

Contents

3 Historian's Remarks

4 History Blurbs

10 History News

Feature Articles

13 National Museum of Forest Service History

14 Grey Towers Celebrates Reopening after Extensive Renovation Work

16 Henry S. Graves—Second Chief of the Forest Service, 1910–20

19 A Short Chronological History of State and Private Forestry

36 Forest Service Employees Were Part of Aircraft Warning Service

37 Structural Glued Laminated Timber and the Forest Service

41 Remembering the Moose Creek Crash of 1979

43 Ground Return Telephones—Down-to-Earth Practicality

48 Forest Lodge 1999

51 Preserving Our Legacy: Historic Forest Service Buildings on the Rogue River National Forest

54 Forest Service Living History

56 Sophie's Cabin: A Work in Progress

57 1906 Fireman's Cabin Restored

History Line

History Line—Summer 2004

Editor-in-Chief: Norene Blair,
Washington Office

History Line is published by the U.S. Department of Agriculture Forest Service

Address all correspondence to:
USDA Forest Service
ATTN: Gerald Williams, OC
Stop Code 1111
1400 Independence Avenue, SW
Washington, DC 20250-1111
Telephone: 202-205-1782
gwilliams02@fs.fed.us

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, sexual orientation, or marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 1400 Independence Avenue, SW, Washington, D.C. 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

Cover Photograph: Silhouette of a young woman, circa 1918, dramatizes the isolation of remote fire lookout stations of the Forest Service on mountain peaks in the West during the early period when many lookouts did not even have a telephone link to a ranger station.
Photo Credit: USDA Forest Service

Historian's Remarks

Jerry Williams, National Historian, Washington Office

Since the last *History Line*, several events have occurred that relate to the Forest Service history program. The most significant was the Forest Service retirees' reunion held in Missoula, MT, in early September 2000. The reunion drew more than 800 attendees from across the country. The week-long celebration was the third of these national retiree events; the next one will be in 2005 in Portland, OR. At the dedication of the National Museum of Forest Service History, then-Chief Mike Dombeck announced that the Washington Office (WO) was directing that $20,000 be sent to the museum for assistance with historical artifacts and educational programs. This is the first time that the Forest Service has formally recognized the museum as a future repository of historic Forest Service-related materials and a center for studies about the role of the agency in Federal forestry and land management. Also at the dedication were former Chiefs F. Dale Robertson, R. Max Peterson, and Jack Ward Thomas. Former Chief John McGuire was unable to attend.

More than a dozen booths and displays were set up to entice the retirees with information, books, and memorabilia and to encourage them to join various organizations. Pins and information were handed out, and the new book, *The USDA Forest Service–The First Century*, was "unveiled."

The history program has limped along for several years on basic salary and some small amount of history project seed money. After I arrived in the WO, I helped initiate several contracts for establishing a historical photo database and digitizing Forest Service photographs and thousands of pages of documents. Since then, the history program and New Century of Service have provided funding for even more digitizing, as well as for projects through the Forest History Society (FHS)

USDA Forest Service

Linda Feldman, New Century of Service, and Ann Loose, then-National Director of Conservation Education, staffed the New Century of Service booth at the third Forest Service Reunion in 2000.

in Durham, NC. The FHS has distributed dollars for such projects as oral histories of Forest Service women employees, Pete Steen's work on the Gifford Pinchot diaries, digitizing of the FHS photo collection (part of which is Forest Service photographs), and Jean Pablo's continuing work with the Pinchot papers at the Library of Congress.

To revive the WO history program, I worked with former Chief Dombeck on a number of projects, including gathering background documents about the new national monuments, researching the conservation movement for over 200 years, writing a history of the 1990s era, and proving historical information on the roadless and old-growth/ancient forest issues. Mike Kaczor (head of the WO Heritage Program) and I were invited to participate in a meeting with the outgoing administration on World War II Japanese internment camps (the Forest Service has one site on the Coronado National Forest—today called the Gordon Hirabayashi Recreation Site). I was also involved with the planning and development phases of the new WO visitor's information center.

History Blurbs

John McGuire Dies; Headed Forest Service in '70s

John R. McGuire, 85, the 10th Chief of the Forest Service, died April 6, 2002, at Asbury Methodist Village in Gaithersburg, MD, after a valiant fight with brain cancer and emphysema. McGuire was born April 20, 1916, in Milwaukee, WI.

He gained his reputation as an expert manager in Forest Service Research and became Chief in 1972. He served from 1972 to 1979.

Clearcutting was a main issue during his watch and he had to balance the needs of the timber industry, environmentalists, and the average citizen. He faced increasing opposition about forestry practices being carried out on the national forests. Most notable were the congressional hearings on clearcutting on the national forests—a result of controversies on Montana's Bitterroot National Forest and on West Virginia's Monongahela National Forest. He also faced mounting controversy over the management of the national forests; new congressional direction that mandated planning at the forest, region, and national levels through the Forest and Rangeland Renewable Resources Planning Act of 1974 (RPA) and the National Forest Management Act of 1976 (NFMA); and special interest groups' increased reliance on litigation to influence national forest management.

He was instrumental in formulating and implementing RPA and played a large role in crafting the NFMA and making changes to strengthen State and Private Forestry's and Research's role in implementing them. He was also instrumental in requiring the Forest Service to review, and then change forest management practices and modify and integrate its methods into land management. During the 1970s, Mr. McGuire also helped shape the Roadless Area Review and Evaluation (RARE) and the RARE II decisions.

McGuire was a forestry graduate of the University of Minnesota. He received a master's degree in forestry from Yale University and a master's degree in economics from the University of Pennsylvania.

During World War II, he served in the Army Corps of Engineers in the Pacific Theater.

After returning from overseas, he became a Forest Service researcher at the Northeastern Forest Experiment Station in New Haven, CT. Later he was assigned to a research station at Upper Darby, PA.

In the 1950s and 1960s, he was chief economist and then director of the Pacific Southwest Forest and Range Experiment Station in Berkeley, CA. He was a prime contributor to "Timber Resources for America's Future," an important agency survey.

He came to the Washington area in 1967 as a top assistant to his predecessor, Edward P. Cliff.

He received the President's Award for Distinguished Federal Service.

USDA Forest Service

Rudy Wendelin, Smokey Bear Artist, 1910–2000.

Rossoll, Smokey Bear Illustrator, Dies at 89

Harry Rossoll

An early Rossoll "Smokey Says" illustration.

Harry Rossoll, who as a Forest Service illustrator helped develop the Smokey Bear fire prevention messages that became one of the agency's most successful public relations campaigns, died February 4, 1999. He was 89.

Rossoll provided early drafts of Smokey Bear in 1944 as the character to promote forest fire prevention.

Rossoll drew more than 1,000 "Smokey Says" cartoons that were published in newspapers across the Nation for 25 years. He also talked with foresters in the field and gave talks about Smokey and fire prevention to schoolchildren.

"Smokey Bear" Voice Gene Moss Dies at 75

Gene Moss, who supplied the voice of "Smokey Bear" in public service spots for the USDA Forest Service, died of cancer at age 75 on July 15, 2002.

Perhaps Moss' earned greatest exposure during a 10-year stint, starting in 1979, as the voice of Smokey Bear in radio and TV ads by the USDA Forest Service, admonishing members of the public in his baritone, "Only you can prevent forest fires." He also did voice-over work for numerous commercial ads through the 1980s before he retired.

Happy Birthday!

The original Medicine Bow was established in 1902. After a few land additions and deletions—including combining with part of the Crow Creek Reserve in 1908—the name was changed to the "Colorado" via Proc. 1602 on July 1, 1910. In 1932, the name was changed again to the Roosevelt National Forest.

The Cheyenne National Forest was formed from the remaining portion of the Crow Creek Reserve and other land in 1908. On April 19, 1910, the Crow Creek land portion of the forest was transferred to the War Department. The remaining portion of the Cheyenne became the Medicine Bow by Proc. 1607 on July 1, 1910.

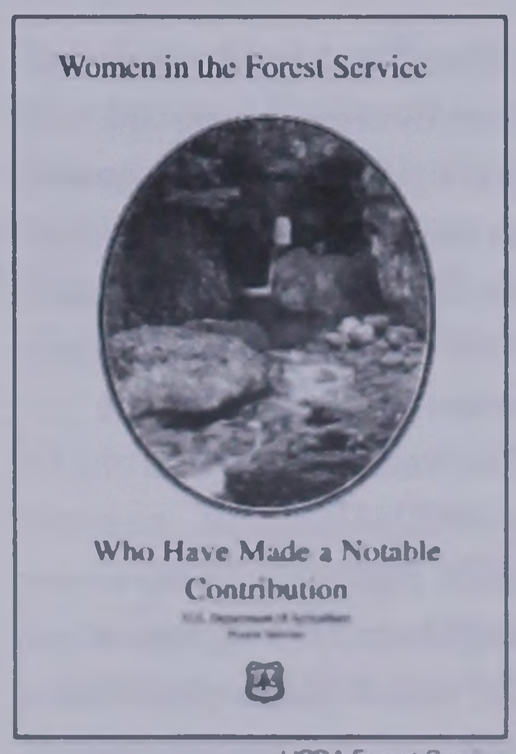
Although on separate land bases, the Medicine Bow and Routt National Forests are currently managed together. The Routt National Forest was established in 1908 from part of the old Park Range Forest Reserve, which was established in 1905.

The Medicine Bow may choose between 2002, 2005, 2008, or 2010 for its centennial.

Forest Service Manual History Chapter Updated

The updated Forest Service Manual Chapter 1680 (History) has been issued. It can be found on the FSWEB under "directives."

Brochure on Forest Service Women Available



USDA Forest Service

Women of the Forest Service Who Have Made a Notable Contribution.

The popularity of women's history celebrations has sparked an interest in uncovering women's forgotten heritage. It also sparked an excellent opportunity for the Forest Service to highlight the achievements of women throughout its history. The Forest Service established an observance to highlight the contributions of women who have made notable accomplishments in

various disciplines where they have traditionally not been recognized.

The brochure, *Women in the Forest Service Who Have Made a Notable Contribution* (FS-698), highlights the first of these women. It is available through the Washington Office (WO), Office of Communication. The project is ongoing, and if you would like to be or know of a woman who should be recognized, please contact the WO Civil Rights Staff at 202–205–1585 or contact the Federal Women's Program Manager, WO Civil Rights Staff; Stop Code 1142; 1400 Independence Avenue, SW, Washington, DC 20250.

1905 Use Book Now Available Online

"The protection of forest resources still existing is a matter of urgent local and national importance."

The latest quote from current Forest Service Chief Dale Bosworth? No—a statement found in the first *Forest Service Use Book*, published in 1905. Interested in seeing what has and hasn't changed in the last 96 years? Check out the complete text of the *1905 Use Book* online at http://www.lib.duke.edu/forest (brought to you by the USDA Forest Service Headquarters History Collection, housed at the Forest History Society, Durham, NC).

The USDA Forest Service–The First Century

The USDA Forest Service–The First Century is a new 160-page book by Forest Service National Historian Jerry Williams with 100 vintage photos. The book is divided into several sections: The Beginning—1873–1905; the Early Forest Service—1905–1910; Forest Protection/Custodial—1910–1933; Great Depression—1933–1942; the War Years—1942–1945; Postwar Development—1946–1959; Multiple Use—1960–1970; Environmentalism and Public Participation—1970–1993; and finally Ecosystem Management—1993–present. They include short biographies of each chief, each with a photo and a short quote from something that he wrote or said. The book also has "sidebars" on special topics, such as Arthur Carhart, Civilian Conservation Corps, clearcutting, ecosystem management, forest fires, the Forest Products Laboratory, badges and patches, grazing, international forestry, John Muir, Robert Marshall, the Multiple-Use Sustained-Yield Act, the National Environmental Policy Act, the National Forest Management Act, grasslands, Smokey Bear, wilderness, and many others. The book was started in 1991 as a project for the National Forest System centennial.

The book is available for *free* from the Washington Office (contact Olga Alvarado at OlgaAlvarado@fs.fed.us). We printed 20,000 copies, so that plenty are available for employees and the public. Region 2 recently requested 2,500 copies for distribution to employees, and so far we have received great reviews from employees and retirees!

A short history of the Forest Service, *The USDA Forest Service—The First Century* by Forest Service National Historian Jerry Williams, was published recently.

USDA Forest Service

For the Greatest Good: Early History of the Gifford Pinchot National Forest

A 64-page book, *For the Greatest Good: Early History of the Gifford Pinchot National Forest*, written by Gifford Pinchot National Forest Archeologists Rick McClure and Cheryl Mack, and edited by Interpretive Specialist Lynn Schinnel, celebrates the 50th anniversary of the name "Gifford Pinchot National Forest." The Gifford Pinchot National Forest has been known by many names since its creation as a forest reserve over a century ago—the Pacific Forest Reserve, the Mount Rainier Forest Reserve, Rainier National Forest, Columbia National Forest, and since 1949, the Gifford Pinchot National Forest. This publication is now available for sale from the Gifford Pinchot National Forest for $9.95 plus tax. Proceeds from the sale of the book go toward educational and interpretive services on the Gifford Pinchot National Forest. To order a copy of this

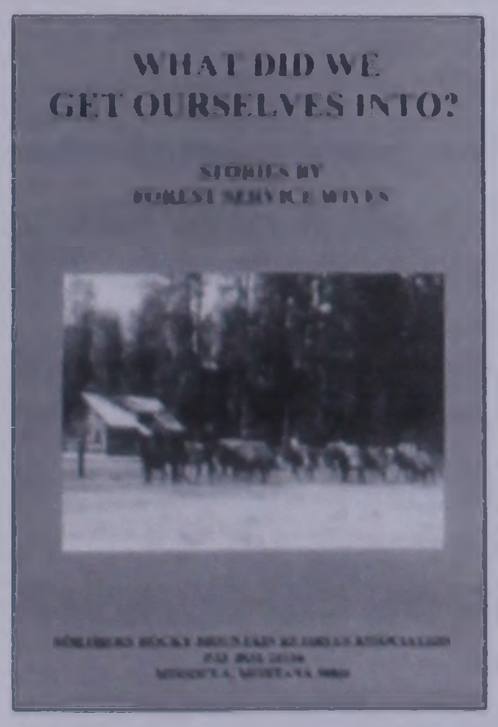
book, write to Rick McClure, Gifford Pinchot National Forest, 10600 NE 51st Circle, Vancouver, WA 98682. Phone 360–891–5000.

USDA Forest Service

Mike Dombeck, Gifford Pinchot III, and Gifford Pinchot IV by a plaque commemorating the changing of the name of Columbia National Forest to Gifford Pinchot National Forest, set in La Wis Wis Campground (1999 photo).

(See related stories on pages 11 [Knappenberger] and 54 [Coady].)

What Did We Get Ourselves Into?



USDA Forest Service

What Did We Get Ourselves Into? Written by members of the Forest Service Wives Club.

What Did We Get Ourselves Into is the name of a new book introduced at the 2000 Forest Service Reunion. Written by wives of Forest Service employees and published by the Northern Rocky Mountain Retirees Association, the book's introduction tells that in October 1944, then-Regional Forester Evan W. Kelley penned the introduction to the first of the volumes, "Early Days of the Forest Service." By collecting and publishing the tales of personal experiences, as told by the men who lived them, Regional Forester Kelley intended to record and preserve the human side of Forest Service history. Most, if not all, of those stories involve the exploits of the men who were hired to serve, protect, and nurture the national forests.

But there is another, equally fascinating side to complement the adventures of the men of the Forest Service. That side is exposed through the stories of the women who accompanied their men for better or worse, richer or poorer, in sickness or health to make homes, often literally in the wilderness, and provide strength, support, comfort, and aid.

Almost to a person, when asked to provide a tale illustrative of some of their experiences, these women would reply, "I don't know what to write. We didn't do anything special." Yet some weeks later a letter would arrive in the mail telling stories of stamina, courage, humor, and good sense—stories revealed by women who thought they hadn't done anything special.

To order this 114-page book, complete with illustrations and photos, for $12 plus $3.00 shipping and handling, write to Ruth Freeman, Northern Rocky Mountain Retirees Association, Inc., 1637 Red Crow Road, Victor, MT 59875-9791

The Magic of My Mountains: Memories from California's Sequoia National Forest, 1919–1926

A Memoir by Norman L. Norris

Recently, Eleanor Norris, daughter of Norman L. Norris, past Supervisor of the Sequoia National Forest, came upon an unpublished account of her father's Forest Service career and published it as *The Magic of My Mountains: Memories from California's Sequoia National Forest, 1919–1926.*

Norman Norris was a young dreamer of 16 when in 1919 he made his first trip into the Sierra Nevada. Returning home from a mountain trip 2 years later, he said, "I saw something that gave me a thrill: a Forest Service ranger riding the long trails out of the Nobe Young Patrol Station on a free-stepping horse. Man! That would be the life."

The next summer he was one. Not a ranger, but a summer smokechaser employed by the Sequoia National Forest. Twenty years later, he became the Sequoia's Forest Supervisor.

Writing in 1961, Norris dedicated his book to the people who filled his memories—Forest Service rangers, firefighters, and road-builders; cattlemen and their wives and children; sharp-eyed horse traders; and good-hearted mountain men: "to all those who love the mountains and answer their call." He died in 1965 without seeing his book published. Only now have his stories been resurrected by his daughter, Eleanor Norris, for all mountain lovers to enjoy.

The 200-page book includes illustrations and photos. The price is $20 plus shipping and handling ($2.50 for one book; $1.00 for each additional book), and California residents must add $1.45 tax per book. Make checks payable to Tule River Country Press and send orders to Eleanor Norris, Publisher, Tule River Country Press, 41463 Yokohl Drive, Springville, CA 93265, call 559–539–2482, or e-mail enorris@ocsnet.net.

Historic Preservation Publication and Video Available

Bernie Weisgerber, the illustrious leader of the Intermountain Region Historic Preservation Team, recently completed *An Ax to Grind*, a technical manual on the history, evolution, use, care, and feeding of the ax. Hundreds of illustrations (many showing antique ax specimens from Bernie's personal collection) adorn the text. A 1-hour accompanying color video shows "everything you ever wanted to know about the ax." To order a copy of the book and video from the Missoula Technology and Development Center, call Brian Vachowski at 406–329–3935 or send an e-mail to bvachowski@fs.fed.us.

Walt Perry: An Early Day Forest Ranger in New Mexico and Oregon

Edited by Les Joslin

Walt Perry (1873–1959) served in the Forest Service in New Mexico and Oregon from 1910 to 1936 as a forest guard, forest ranger, and timber manager. Mostly self-educated, he became a senior member of the Society of American Foresters and a respected member of the forestry profession. He was also an accomplished amateur archeologist, naturalist, writer, and poet. His memoir, penned in 1938, has been skillfully edited by Les Joslin into a fascinating new book, *Walt Perry: An Early Day Forest Ranger in New Mexico and Oregon* about his life and times in the early Forest Service. To purchase the book (205 pages, 32 photos, paperback, 6x9 inches, ISBN 0-9647176-2-0) for $15.95 including postage and handling, write to Wilderness Associates, P.O. Box 2772, Missoula, MT 59806–2772.

Forest Service History Part of University of Idaho's New Northwest Historical Manuscript Series

By Dennis Baird. (Reprinted with permission from "Towers: A Newsletter that Supports the University of Idaho Library.")

History is a patchwork of stories added to by each generation. Idaho's history is no exception, but many of the pieces appear to be missing. These stories are told today by books, photographs, maps, financial records, and original accounts by the people who lived, worked, and passed through Idaho. The latter category tends to be the most interesting and the most difficult to locate, unless one really knows where to look. Apparently, University of Idaho Librarian Dennis Baird does. Through the University of Idaho Library, Baird has begun the publication of the Northwest Historical Manuscript Series. Its mission is to transcribe and publish primary source documents, such as handwritten reports from early military and other surveyors. "We are concentrating on Idaho history, especially that of north central Idaho," Baird commented.

"While researching Idaho conservation history, particularly Lewis and Clark and those who came after them, I found that there was little primary source publishing about Idaho," reflected Baird. Those documents he did find as he was researching weren't transcribed or published. Most of the writers are unknown to the general public and won't be found in an Idaho history textbook. However, their stories are important and often make people see the aspects of history that have been overlooked. "Our goal became publishing Idaho primary source documents in as small editions as economically possible," Baird said. The documents are chosen for their historical value, absence of royalties, and interest to researchers. In 1999, this goal was realized.

Five manuscripts have already been published in the Northwest Historical Manuscript Series:

The Early Years of the Bitterroot Forest Reserve: Major Frank Fenn Reports to Washington; Report of the Northern Pacific Railroad's Survey of the North Fork of the Clearwater River in 1871 by Philip G. Eastwick, With Bird and Truax on the Lolo Trail: Building the Virginia City to Lewiston Wagon Road, 1865-1867; Bitterroot Crossing: History of the Management of the Lolo Trail by Dene Eastman (printed in June 2000); and In Nez Perce Country: Accounts of the Bitterroot and Clearwater after Lewis and Clark, edited by Lynn and Dennis Baird (printed in August 2002).

These documents give insight into the lives of early Idahoans and explorers. Major Frank Fenn was a well-respected man who was involved in many defining events and successful careers on the frontier. The capstone of his career was overseeing the Bitterroot Forest Reserve as its superintendent. Many landmarks in Idaho give testament to the admiration afforded him; for example, the highest peak in the Selway-Bitterroot Wilderness has been named Fenn Mountain. Included in the first Northwest Historical Manuscipt Series is a 1899 report from Bitterroot Forest Reserve Superintendent James Glendenning and a 1901 report from Major Frank Fenn aimed at convincing the General Land Office to deny Judge (later Senator) Heyburn's 1898 petition to decrease the size of the Bitterroot Forest Reserve for mining purposes. The original documents are in the General Land Office records at the National Archives in Washington, DC.

To order these publications, contact the University of Idaho Library, ATTN: Dennis Baird, Moscow, ID 83844–2301. Prices of the publications vary from $5.00 to $13.95.

Forty Years a Forester

Book Review by Larry Lassen

Forty Years a Forester—1903–1943 by Elers Koch is a collection of essays covering the experiences of one of the first professional foresters of the Forest Service in the Western United States. Author Elers Koch, born and raised in Missoula, MT, had a distinguished Forest Service career, most of it in the Northern Region. He was one of the first westerners to earn a master's degree in forestry from Yale and was one of "Gifford Pinchot's Young Men."

His early Forest Service assignment was helping to establish the boundaries of several national forests in California, Montana, and Wyoming. In 1906, he became supervisor of the combined Bitterroot, Missoula, and Lolo National Forests—an area then still largely unexplored and unmapped. In 1921, he went on to become Assistant Regional Forester and Chief of the Division of Timber Management in the Northern Region, where he served until his retirement.

Elers Koch's storytelling skill is evident in each essay as he relates experiences from his boyhood through his Forest Service career.

To order the book, contact HallBiographies.com.

Smokechaser—Idaho Book Award Winner

Smokechaser by Warren J. Yahr won an honorable mention for the Idaho Book Award. Yahr came to Idaho as a teenager to work for the Forest Service and became a lookout at the Bungalow Ranger Station, 28 miles from Pierce, ID, near the North Fork of the Clearwater River. In *Smokechaser,* Yahr recalls his experiences during the years he worked as a lookout watching over large stands of virgin fir, pine, hemlock, cedar, and spruce. To order a paperback copy (224 pages, with photos, $18.95), write to University of Idaho Press, 16 Brink Hall, Moscow, ID 93944–1107.

BAKER 30— A New Novel about the Forest Service

The timeframe of *Baker 30,* by Steve McDonald, is 1960, when the commercial airtanker industry is starting to buy large surplus military aircraft, such as the PB4Y and B-17, for conversion to airtankers. The main character, Colonel Bob MacIntyre, suffers from a neuropsychiatric disorder resulting from the stresses of flying high-risk bombing runs over Germany during World War II. For the last 15 years, he has been suffering flashbacks that are beginning to threaten his long-term health. His attending Virginia doctor believes that for Colonel MacIntyre to overcome his disorder, he must be placed in an environment similar to his World War II days where he might be able to bring his flashbacks into the real world. The airtanker industry seems made-to-order for the Colonel, but is it his therapy?

Editor's Note: The *Baker 30* is a real B-17 that was used for forest firefighting. It is now housed in the Pima Air Museum, Tucson, AZ, in its original Army Air Force colors.

Grey Towers Undergoes Major Renovation

By Gary Hines (now retired), Grey Towers

In 1963, the Forest Service became the proud owners of Grey Towers, the historic home of the Forest Service's first chief, Gifford Pinchot.

Built in 1886 as a Pinchot family summer home, the structure was beginning to fall apart. Bats frolicked freely inside; plaster, loaded with asbestos, rained from the ceiling; water leaked; and lakes formed in the basement.

The agency did what any new homeowner would do—it altered, shored up, destroyed, and saved areas of the old building. Those alterations, coupled with more than a hundred years of weather damage, led the Forest Service to begin a major renovation.

USDA Forest Service

Grey Towers' tower gets a new roof.

The Forest Service decided to use the estate, symbolically and literally, as the Pinchots did. The servants' wing was gutted and converted to office space for the civil servants of Grey Towers. The rest of the mansion will become a "home." The first floor, currently used as museum space for visitors, will be returned to how it looked during the Pinchot era. The second and third floors, now used for offices, will be converted back to the feel of the original bedrooms and will be used as meeting rooms.

The Letter Box, Pinchot's own archive and sometime office, will become an archival center for scholars and researchers. The Baitbox, a once-elaborate playhouse for Pinchot's son, will provide an intimate meeting area for think tanks focused on natural resource management use and protection, an important part of the Grey Towers mission.

Because the restoration was so dramatic, Grey Towers was closed for almost 3 years. It reopened on August 11, 2001, and will again be used as Gifford Pinchot's son intended when he gave the mansion and 100 surrounding acres to the Forest Service—as a place to nourish and grow the ever-evolving concepts of natural resource conservation begun by his father.

(See related story on Grey Towers Grand Reopening on page 14.)

New Video

School Gets Grant to Produce Video on Ranger's Wife

By Diana Enright-Bowden, Public Information Technician (now retired), Kootenai National Forest

The Noxon (Montana) School received an $8,000 grant from the Montana Committee for the Humanities to create a 30-minute video program about the life of Pauline Reithmiller Gordon, wife of Granville (Granny) Gordon, the first Forest Service ranger at the historic Bull River Ranger Station near Trout Creek, MT. Told from Pauline's perspective, the video looks at what the first ranger encountered in the area. The program was adapted from a script, "Ranger Under the Influence," by Montana writer-historian Mona Vanek of Noxon.

Pauline "Lena" Gordon and her husband moved from Wyoming, where Granville had been a guide for Buffalo Bill Cody, to Montana in 1906. He joined the Forest Service and was named district ranger of the Bull River Ranger Station.

For the past 25 years, Vanek, a freelance writer, has gathered photographs and oral histories from and about the area's early settlers and used these records to prepare a three-volume history of the area, *Behind These Mountains*, as well as the video.

The completed video, titled "Aunt Lena, Cabinet National Forest's Unsung Heroine," is available on VHS from Mona Vanek, 1158 Highway 2000, Noxon, MT 59853. The cost is $19.95 plus $5.00 shipping and handling.

Rescued Plaque Has Historical Significance

By Tom Knappenberger, Gifford Pinchot National Forest

Wayne and Sue Sutton, owners of a chainsaw store in Amboy, WA, unknowingly rescued a unique Forest Service artifact from a salvage sale several years ago.

When the Gifford Pinchot National Forest administration moved into a new warehouse at Mount St. Helens, Mr. Sutton purchased a pile of salvage. Included in the discards was a large wooden plaque in the shape of a Forest Service shield. On the shield was a photo of President Harry Truman signing a bill that changed the name of the Columbia National Forest to the Gifford Pinchot National Forest. Also encased in the plaque was one of three pens Truman used to sign the bill.

The plaque has been hanging over the counter in the Suttons' shop, but they recently loaned it to the Gifford Pinchot National Forest, where it is proudly displayed in the front lobby.

USDA Forest Service

The almost discarded plaque showing President Harry Truman signing a bill that changed the name of the Columbia National Forest to the Gifford Pinchot National Forest.

Wit and Wisdom from the Past

On early-day Forest Service roads—

When I retired in 1942, I received a nicely bound book of some 60 letters that I prize very highly. One of the letters gives the writer's opinion of the early day, 9-foot [-wide] Forest Service roads.

Winding in and winding out,
It fills my mind with serious doubt
As to whether the man who built this road
Was headed for hell or coming out.

—Walt Dutton

The Birth of the Society of American Foresters

Reprinted with permission from the Society of American Foresters

The Society of American Foresters (SAF) founded in 1900 by Gifford Pinchot, celebrated its 100th anniversary in 2000. Our Nation's forests are healthier than ever, thanks, in part, to thousands of professional foresters across the country who share Pinchot's vision of sound forest management and conservation.

It was mainly to help the Bureau of Forestry's budding foresters that the Society of American Foresters was formed. In November 1900, the first meeting was held in Gifford Pinchot's little office in the old Department of Agriculture building. Present at the meeting—besides Pinchot—were Graves, Price, Allen, Hall, Hosmer, and Sherrard. Seven in all, but enough.

Society of American Foresters logo.

The following is anexcerpt from *Breaking New Ground*, an autobiography written by Gifford Pinchot and printed in 1947, 1 year after his death.

The purpose of the Society was "to further the cause of Forestry in America by fostering the spirit of comradeship among foresters; by creating opportunities for a free interchange of views upon Forestry and allied subjects; and by disseminating a knowledge of the purpose and achievements of Forestry."

By and large the Society had no small share not only in educating our men, but also, and that was even more important, in establishing a genuine respect for the profession of Forestry. That would help to induce as many of our hastily equipped leaders as possible to take time, as and when they could, to attend regular professional courses before settling down to the long pull. And a good many of them did.

The weekly meetings of the Society were held at my home, where the discussion of the evening was regularly followed by a very moderate feast of baked apples, gingerbread, and milk. To some of our men the proceedings were so new and strange that one of them, a Westerner noted for his cool courage, actually fainted when the time came for him to speak. But he made his talk just the same.

These meetings brought our boys into touch with many men of distinction in fields of science related to Forestry. Men like Charles D. Walcott, Arnold Hague, F.H. Newell, Henry Gannett, J.A. Holmes, Frederick V. Coville, and Edward Bowers came and spoke. They were early associate members of the Society. And so were General C.C. Andrews of Minnesota, Colonel William F. Fox of New York, Secretary of Agriculture James Wilson, and Theodore Roosevelt.

Later on T.R., as President of the United States, addressed the members of the Society at 1615 Rhode Island Avenue. It was a rare and most inspiring proof of his interest in Forestry, for Presidents seldom, if ever, address meetings in private houses. T.R.'s speech did very much to stimulate the spirit of devotion to their work among the men who heard him.

In such ways, the little group of members of the Society was welded together into what was later to become the vital core of the Forest Service—vital in loyalty to all that the Service stood for, and with the highest morale to be found anywhere under the Government of the United States.

To commemorate its 100th anniversary, the Society of American Foresters had centennial programs throughout 2000 from coast to coast.

SAF, as part of its Forests for Humanity project, contributed to 100 Habitat for Humanity homes during 2000. SAF members provided wood products, services, money, and labor for needy families through this project while raising public awareness of the connection between forestry and the wood products we use every day.

Society of American Foresters

SAF celebrates its 100th anniversary with a birthday cake.

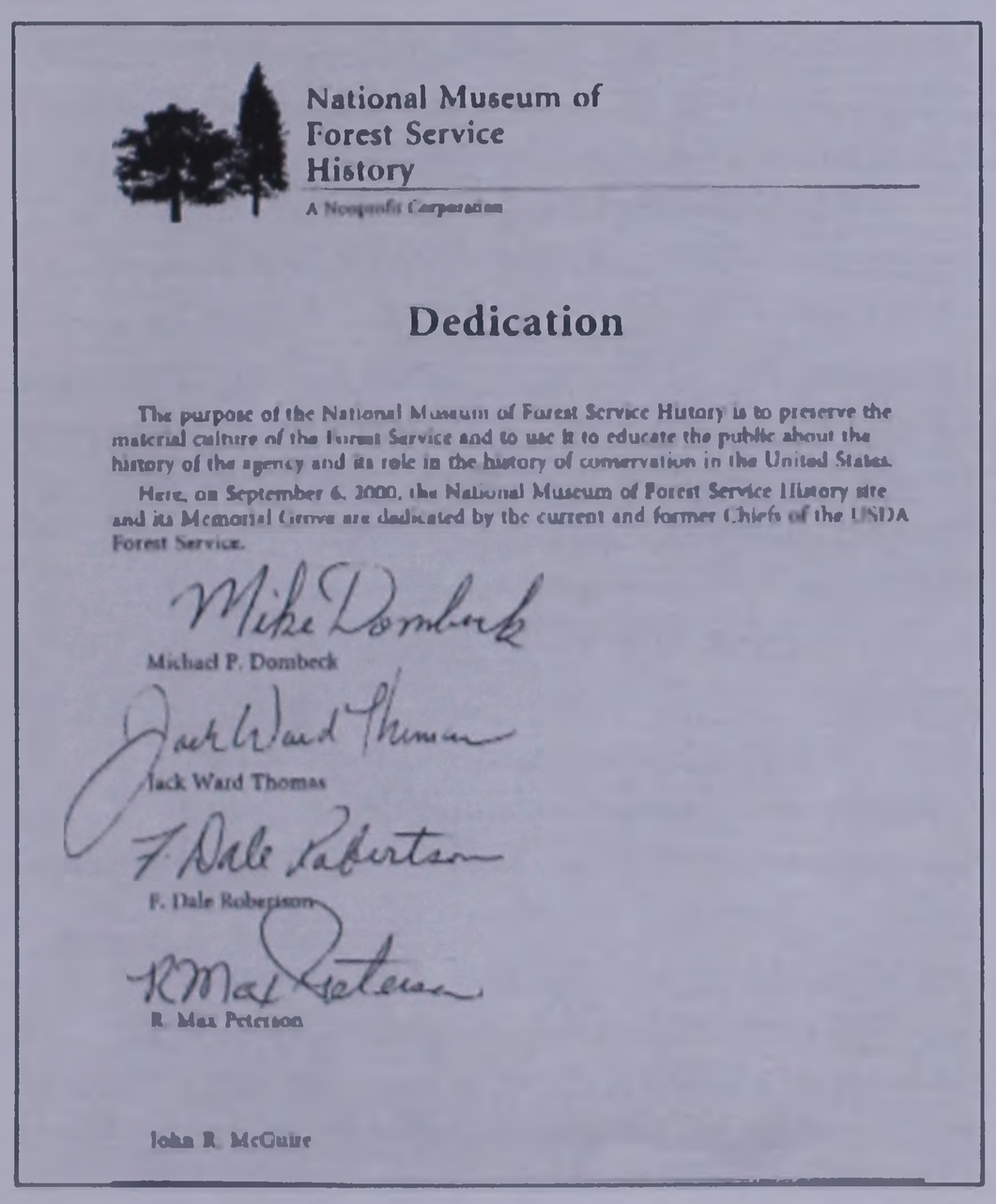
SAF and the National Arbor Day Foundation have formed an exciting partnership and planted trees nationwide. SAF members participated in projects with local schools, community groups, and civic organizations. National Arbor Day was held the last Friday in April, but state events are held to coincide with the best weather for tree planting. These dates range from January and February in southern climes to May in the far North.

From June 2000 to January 2001, visitors to Washington, D.C.'s National Building Museum viewed an exhibition on the use of wood as a building material and explored the impact forests and wood have had on the U.S. landscape and culture. This stunning exhibit featured photographs, tools, artifacts, and interactive activities.

National Museum of Forest Service History

Past and Present—Forest Service Dedicates Memorial Grove

Four former Forest Service chiefs were on hand September 6, 2000, when former Northern Region Regional Forester Tom Coston emceed the dedication of an interim visitor's center on the site of the future National Museum of Forest Service History in Missoula, MT. More than 600 people, many retired Forest Service employees attending Reunion 2000, listened to words about preservation and conservation before enjoying a barbecue lunch.



National Museum of Forest Service History

A Nonprofit Corporation

Dedication

The purpose of the National Museum of Forest Service History is to preserve the material culture of the Forest Service and to use it to educate the public about the history of the agency and its role in the history of conservation in the United States.

Here, on September 6, 2000, the National Museum of Forest Service History site and its Memorial Grove are dedicated by the current and former Chiefs of the USDA Forest Service.

Mike Dombeck

Michael P. Dombeck

Jack Ward Thomas

Jack Ward Thomas

F. Dale Robertson

F. Dale Robertson

R. Max Peterson

R. Max Peterson

John R. McGuire

The dedication document for the National Museum of Forest Service History, signed by the living Chiefs of the Forest Service.

The museum's purpose will be to preserve the Forest Service's material culture and to educate the public about the agency's history and the role the Forest Service has played in the conservation history of the United States.

Then-Forest Service Chief Mike Dombeck presided over the museum site's official dedication near the airport, just west of the Missoula Aerial Fire Depot. Former Forest Service Chiefs Jack Ward Thomas, F. Dale Robertson, and R. Max Peterson honored the occasion with speeches and read a special message from former Forest Service Chief John McGuire, which was printed in the program for the dedication.

The museum's first exhibits will be housed in the historic Bungalow Ranger Station ranger's house, which will be the museum's headquarters for a while. The structure, built in the 1920s on the Clearwater National Forest, is being restored on the museum site and will be open to the public as soon as a paved access road and parking lot are completed.

Because the museum site is not large enough to accomodate a memorial tree for each Forest Service employee who has passed on, the museum site will feature a memorial grove of trees. So far 14 trees have been planted as a general memorial to deceased employees. A plaque in the new museum building will display the names of all people memorialized by these trees.

The cost of completing the museum, including the complex's operation and maintenance, will be around $14 million. At the dedication, former Associate Chief Doug Leisz challenged 100 retirees to donate $100,000 to help get the museum operating; $50,320 had been donated by the end of the dedication.

Grey Towers Celebrates Reopening after Extensive Renovation Work

By Lori McKean, Information and Education Specialist, Grey Towers National Historic Landmark

August 11, 2001, Gifford Pinchot's birthday, heralded the grand reopening of Grey Towers National Historic Landmark in Milford, PA, former home of the founder and first chief of the Forest Service, and two-time governor of Pennsylvania. Closed for almost 3 years after an 8-year planning process, Grey Towers and its surrounding landscape and historic gardens have once again sprung to life, reflecting the enormous spirit of its heyday when Gifford and Cornelia Pinchot lived there.

USDA Forest Service

Grey Towers.

Grey Towers is now not only a fully functional conference center, but a uniquely beautiful and inspirational facility that will carry on the Pinchot conservation legacy, which was the original intent when Dr. Gifford Bryce Pinchot donated the estate to the American public in 1963.

Opening to accolades from everyone in attendence, including the Pinchot family, the celebration included various events that showcased the restoration work and highlighted the future uses of the site. More than 2,000 people attended, including the public, invited guests, dignitaries, and legislators. The Fiddling Foresters provided a musical program, and Grey Towers Deputy Director Gary Hines performed an original presentation as Gifford Pinchot, who returned to the mortal world to retrieve a lost diary and pronounce his approval of the renovation work.

Forest Service Chief Dale Bosworth announced the renaming of the Grey Towers Conference Center library as the Edgar B. Brannon, Jr., Library, in honor of Grey Towers Director Ed Brannon's leadership role. Other speakers included Al Sample, Director of the Pinchot Institute for Conservation; Dennis LeMaster, Chairman of the Pinchot Institute Board of Directors; Peter Pinchot, Gifford's grandson and Director of the Milford Experimental Forest; and Pennsylvania Congressman Don Sherwood. Pike County Commissioner Harry Forbes read a congratulatory letter from the Secretary of the U.S. Department of Agriculture, Ann Veneman.

The restoration was a cooperative effort between the Forest Service and National Park Service. Interpretive tours of the home enlightened visitors to the many contributions the Pinchots made to American society, with an emphasis on Gifford Pinchot's founding of the Forest Service and its role in conservation. A full slate of conservation education programs and outreach to schools is under way. Finally, in addition to the Forest Service and its conservation partners, other organizations and agencies that are involved in natural resource management are invited to use the facility for meetings, conferences, and workshops.

Grey Towers National Historic Landmark: A Restoration Timeline

When Dr. Gifford Bryce Pinchot donated Grey Towers to the Forest Service in the early sixties, he intended for it to be used as a place to continue and further evolve the work of his father. It soon became apparent that, to serve the American public safely and effectively, serious work needed to be done. To deal with the effects of more than 100 years of weather, to make the site more accessible, and to enable the vision to become a reality, an extensive renovation was needed.

In 1993, the Advisory Council for Historic Preservation, Forest Service, Grey Towers National Historic Landmark, and Pennsylvania Historic Preservation Officer (PHPO) reached an agreement that outlined requirements for the continued management of the landmark and a review process for preservation/renovation of the site.

The rest of the story, as they say, is history....

1994: The master facilities site plan is prepared.

1995: The Historic Preservation Office reviews the plan and agrees with the recommendations.

1995: Work begins. Structural repairs are made and new roofs are installed on several outbuildings. Installation of a new slate roof on the mansion begins.

1996: Cooperation with the National Park Service Denver Service Center (DSC) begins. A cultural resource assessment is completed. Exterior paint analysis is done. Schematic design for buildings; elevator schematics for the mansion; an analysis of heating, ventilating, and air conditioning; and specifications for immediate repairs are prepared. Ice house, bait box, and gatehouse renovations are designed. The mansion roof replacement and repair/repainting of wood trim is completed.

1997: Renovation of the ice house, bait box, and gatehouse begins. Archeological overview and assessment is completed. Archeological surveys for parking and circulation are completed. Design and construction documents for parking and visitor's services are completed.

1998: Design of exterior renovation of gatehouse and service wing renovation are prepared. Immediate repairs and gatehouse exterior are completed. Service wing renovation begins. The bridge over the brook at entry drive is reconstructed.

1999: Design of historic gardens is completed. Design of main house rehabilitation is completed. Historic wallpapers, stencils, decorative painting, and interior paint were evaluated. Investigation and preparation of historic furnishings plan. Service wing renovation completed.

2000: Main house rehabilitation begins. Archeological investigation is accomplished. Partial historic gardens rehabilitation begins. Deer fence is installed. Design of renovation of letter box completed.

2001: Completion of main house renovation and partial historic gardens. Design of support area and farmhouse rehabilitation. Proposed design of trails, ponds, and amphitheatre projects approved for funding. Archeological evaluation of Laurel Hill Cemetery and proposed treatment plan developed. Proposed rehabilitation of farmhouse and partial construction of support area. Proposed renovation of letter box. Production and installation of reproduction historic wallpaper. Conservation and reproduction of historic stenciling. Conservation and reproduction of historic decorative painting. Installation of furnishings in accordance with historic furnishings plan.

2002 and beyond:

Proposed completion of recreation projects. Second phase of historic garden rehabilitation begins. Second phase of support area begins. Construction of parking and visitor services begins.

Although Grey Towers has reopened, more work remains to be done. The Letter Box, a small outbuilding adjacent to the mansion that once served as Pinchot's political office and archive, was recently selected as a Save America's Treasures site by New York Senator Hillary Clinton. The Pinchot Institute for Conservation is raising money to match the Lake McKean grant so that it can be restored and repaired for use as an educational and research center. Plans are also underway for a new visitors reception area, including a larger parking area and an archival and maintenance complex.

For more information, call Grey Towers at 570–296–9630 or visit the Web site at www.pinchot.org/gt.

Henry S. Graves—Second Chief of the Forest Service, 1910–20

By Jerry Williams, National Historian, Washington Office

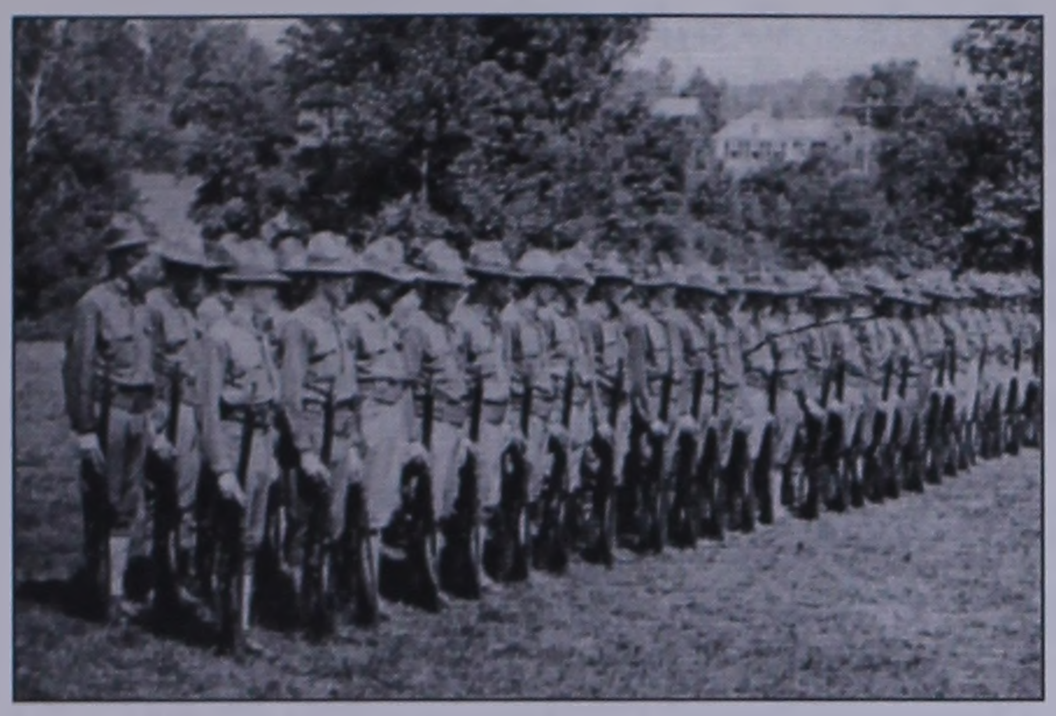
Henry "Harry" Solon Graves was born in Marietta, OH, on May 2, 1871. For many years, his father, W.B. Graves, was a professor of natural sciences at Phillips Academy in Andover, MA. Henry attended Phillips Academy, and then Yale University, from which he graduated with a B.A. degree in 1892. He studied forestry at Harvard and later in Munich, Germany. He received a master's degree from Yale in 1900. His first practical forestry work was during the summer of 1896, when he accompanied Gifford Pinchot and the National Forest Commission on their tour of the West to investigate the forest reserve situation. Pinchot paid Graves—as the commission was not paid except for traveling expenses—to investigate forestry matters first hand, especially the grazing versus tree growth matter in Oregon's Cascade Range. The following year, Graves worked for the U.S. Department of the Interior Geological Survey (USGS) where he examined and authored a USGS report on the Black Hills Forest Reserve. Graves served as the Assistant Chief of the Division of Forestry beginning on July 1, 1898. He was a close friend of Gifford Pinchot's and one of the seven original members of the Society of American Foresters, which was formed at Pinchot's home in November 1900.

Graves was an eminent professional forester, serving as the first professor and director of the new Yale Forestry School in 1900, which was founded by an endowment from the Pinchot family. He never lost his ties with Pinchot and what would become the Forest Service in 1905. In that year, the Forest Service commissioned him to examine and report on forest conditions in the Philippines.

In 1910, he was selected to take over the reins of the 5-year-old Forest Service, after President Taft fired Gifford Pinchot. By then, the Forest Service was managing some 172 million acres of national forests, with about 1,500 employees and a gross income of around $3 million. Graves was described as strongly puritanical and no-nonsense (he frowned on smoking in the office and forbade whistling), yet he commanded respect and even affection from his staff. Graves felt the burden of trying to rebuild the morale that was shattered by Pinchot's firing. In addition, he worked hard to allay the public's impression of an agency at odds with the President and embattled in a storm of controversy.

Initially, Graves had to restore relations with the Department of the Interior and Congress, then work to bring about a strong Forest Service. He also had to fight to keep control of the national forests, because a number of State and private interests wanted the forests returned to State or local control. He and his staff successfully went to work to show that the Forest Service was the best-qualified agency to manage the national forests. The *Journal of Forestry* (March 1920) characterized Graves: "...along with the name of Gifford Pinchot, who brought the administrative policy for handling them [the national forests] into being, will stand that of Henry S. Graves as the man who consolidated the positions that his predecessor had won, and prevented the undoing of the work so well underway. In short, these two have supplemented one another in a great common task. What the first started, the second completed."

Graves' 10-year stint as Forest Service Chief was characterized by stabilization of the national forests, purchase of lands that would become the new national forests in the East, and strengthening of the foundations of forestry by putting forestry on a more scientific basis. Soon after the declaration of war in the spring of 1917, Graves was commissioned as a major in the Corps of Engineers and sent to France to make advance preparations for the 10th Engineers (Forestry) and later the 20th Engineers, many of whom were Forest Service employees. He returned to the United States and the Forest Service in the spring of 1918 as a lieutenant colonel and soon after inaugurated a movement looking toward developing a national forest policy for the United States.



USDA Forest Service

In 1917, the Army's Forestry Battalion went into training and was headquartered at American University in Washington, DC.

Graves' contribution was the successful launching of a national forestry policy for the United States, a permanent and far-reaching achievement. He was able to overcome internal morale problems and a suspicious Congress, especially during the protracted congressional hearings over the Pinchot-Ballinger controversy. During his tenure as chief, the Forest Products Laboratory (FPL) was formally established at Madison, WI; the Weeks Act was enacted in 1911, allowing Federal purchase of forest lands (mostly in the East), and lands that were being sought to add to the National Forest System (the Pisgah National Forest was the first in 1916); the Weeks Act also allowed better cooperation between the Forest Service and the States in fire protection and firefighting operations; the land exchange policy was developed; the policy of road building for development—especially recreation and fire control to open the national forests—was formulated; recreation campgrounds and picnic areas became a growing concern and responsibility; summer home tracts were developed; a system of fire detection (lookouts) on the national forests was created; and the research branch of the Forest Service was organized.

Graves was actively opposed to the creation of the National Park Service and he advocated the management of the national parks by the Forest Service (the Park Service was established in 1916). Graves and other chiefs for the next quarter century also advocated public control or even the takeover of private forest lands, which soured relations with the lumber industry for decades. The Congress did not follow through on these ideas. Graves resigned from the Forest Service in 1920.

Graves returned to the Yale School of Forestry in 1922 as the dean, a position that he held until 1939. He was made Provost of Yale University in 1925, resigning from the post 2 years later. Graves was very active back at the forestry school. Teaching and education were of particular importance to him. He served on several committees to advance the fields of forestry and natural resource education. After World War II, he chaired the joint committee on forestry for the National Research Council and the Society of American Foresters. He also chaired a committee for the United Nations Food and Agriculture Organization (FAO), where he was successful in adding forestry and forest products to the program. Graves served as the president of the Society of American Foresters (he was a founding member in 1900) and he was awarded the society's highest award—the Gifford Pinchot—in 1944. He served twice as the president of the American Forestry Association and as president of the Connecticut Forestry Association. He was awarded an honorary A.M. degree from Harvard University in 1911 and honorary LL.D. degrees from Lincoln Memorial University in 1922, Syracuse University in 1923, and Yale University in 1932. He married Ella Marian Welch of New Haven in 1903. He died March 7, 1951.

Graves wrote a book, *The White Pine* (with Pinchot), in 1896; *The Black Hills Forest Reserve* in 1899; *Woodsman Handbook* in 1910; *Principles of Handling Woodlands* in 1911; *Practical Forestry in the Adirondacks* in 1911; *Woodlot* (with R.T. Fisher) in 1912; *Manual of Forest Mensuration* in 1906; and *Forest Education* (with Cedric Guise) in 1932. Graves was a frequent author of articles appearing in a wide variety of forestry and related publications. He served as one of the editors of the *Forestry Quarterly*.

Henry Graves wrote the following about forestry policy:

> When the policy of deeding away the public timberlands was at last found to be an unsafe one for the Nation, it changed and the bulk of the remaining public timberlands were withdrawn from public appropriation and segregated as national forests. In this way, about 155 million acres, nearly all in the western mountains were reserved. The public forests are being protected from fire, the timber is used as it is called for by economic conditions, and the cutting is conducted by such methods as leave the land in favorable condition for the next crop of timber.

The very magnitude of the national forest enterprise has created in the minds of many people the impression that the problem in this country is already on the way to definite solution. In point of fact, only certain initial steps have been taken.... It is my hope that we may secure sufficient public support to enable us to accelerate the acquisition by the Government of the important remaining areas [in the East] before it is too late.... Forests on critical watersheds should be owned by the public for their protective value. Public forests serve, also, as centers of co-operation with private owners and as demonstration areas for the practice of forestry as well as furnishing their direct benefits in producing wood materials, as recreation grounds, etc.

USDA Forest Service

Henry (Harry) S. Graves, Second Chief of the Forest Service, 1910–1920.

Further Reading

Greeley, William B. 1955. "Henry Graves: The Great Conserver." American Forests, Vol. 61 #4 (April): 20-21; 40, 42, 44, 46-48.

Guthrie, John D. 1927. "Sketches of the Foresters: V. Henry Solon Graves." Six Twenty-Six, Vol. 10 #10 (Oct): 3-4. Newsletter of the Pacific Northwest Region of the Forest Service.

Journal of Forestry. 1920. "The Old Order Changes." Journal of Forestry, Vol. 18, #3 (March):203-210.

Pablo, Jean M. 1983. "Graves, Henry Solon (1871–1951)." Pp 276 in Richard C. Davis (ed.) Encyclopedia of American Forest and Conservation History. Volume 1. New York, NY: Macmillan Publishing Company.

Toumey, James W. 1910. "Henry S. Graves, Chief Forester." The Independent, January 27: 176-178.

A Short Chronological History of State and Private Forestry

Based on A Federal Commitment to Forest Conservation on Private Lands, Prepared by James W. Giltmeier and Updated by the People of State and Private Forestry

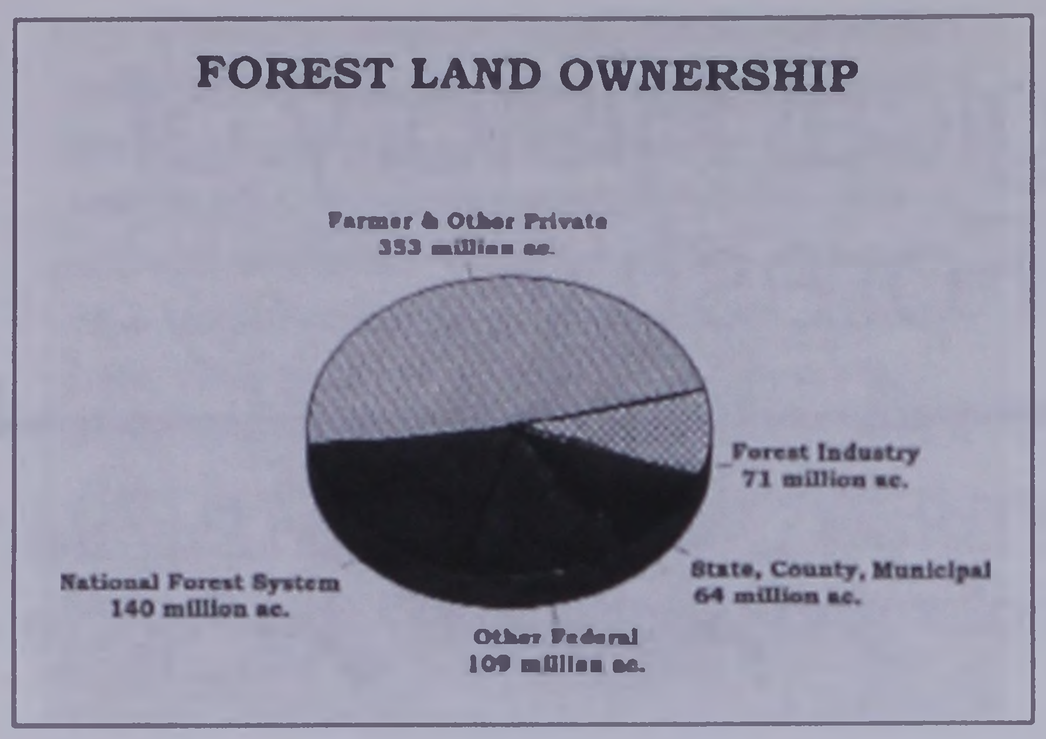
The Forest Service's State and Private Forestry Deputy Area includes a set of specific programs, an approach to doing business, and a priority on collaborative working relationships. The programs include wildland fire management on National Forest System lands and cooperative fire management with State, local, and tribal governments; forest health, including insect and disease prevention, monitoring, and control on all Federal lands and cooperative assistance to States and private forest landowners; technical and financial assistance on forest management to nonindustrial private forest (NIPF) landowners and to communities; economic assistance to communities dependent on natural resources; conservation education; and tribal government relations. All programs on non-Federal lands are voluntary and nonregulatory, and most are actually delivered by State forestry agencies, tribal governments, local governments, or the private sector. State and Private Forestry also works closely with tribal, State, and local governments on natural resource-related issues.

This article will touch on four eras and describe a few key events in each that led to State and Private Forestry's cooperative approach. The four eras are Nation Building (1781–1854), the Civil War as a Turning Point (1862–1910), Formal Opening of Cooperation with States (1911–1944), and New Conservation Ideals Begin (1945–Present).

A Federal commitment to forest conservation across land ownerships and the history of State and private forestry in the United States predate the Forest Service's establishment in 1905. It is a story of how the Federal Government has tried to influence the management of private forest lands to benefit the owners of that land and the public. Like most real-life tales, it has no definite beginning, but has rather taken its form from the wisps of events.

Nation Building (1781–1854)

When the United States was being built, it was land poor. The Federal Government owned nearly all the land, its official policy was to transfer public domain lands into the hands of people who would generate wealth from them, mostly by farming. Nearly all wealth was created from privately held lands. At times, the Federal Government acquired land through treaty or purchase faster than it could sell it or give it away to the people or the railroads. But by 1827, President John Quincy Adams had reserved forest lands that contained timber valuable for naval stores (resinous juices of pine woods such as tar and pitch) from sale, and in 1849, the Department of the Interior was created to be responsible for all public lands except those reserved for naval stores. These actions led to the still-ongoing debate about the need for and use of public lands. Since the Federal Government still wanted to dispose of as much public domain as possible in the shortest time, several years later, in 1854, Congress passed the Graduation Act to reduce the price of land that had been for sale for a long time. This era set the stage for vast tracts of forest to become State or private land. Today, the Nation's private forest land accounts for 40 percent of the world's privately owned forests.



Forest land ownership.

The Civil War as a Turning Point (1862–1910)

The 1860s mark the beginning of conservation, both in thought and the public policy arenas. This era gave rise to increased awareness about the value of forests, legendary leaders in conservation, and public policies reflecting people's desires to leave a legacy for future generations. While the Civil War was being waged, George Perkins Marsh published his book *Man and Nature*. Today, many people look on that book as the beginning of a shift in public attitude toward natural resources, from exploitation to conservation, and for sustained yields of timber, range, and water needed to maintain a growing population.

At the time, it was common when farmland was "played out" for families to pull up stakes and settle somewhere else—usually they headed farther west and began the cycle again. Following the Civil War, logging removed most of the forests of the Southern and Great Lakes States to provide raw materials to build the cities of a growing Nation.

USDA Forest Service

Logging in Michigan before 1900.

In 1862, Congress established the Department of Agriculture and enacted the Morrill Act. Both were aimed at curbing wasteful agricultural practices and designed to help independent family farmers. The Homestead Act of 1862 authorized any person who was head of a family, or 21 years old, and a citizen to acquire up to 160 acres of unappropriated land at a price of $1.25 an acre, or not more than 80 acres at $2.50 an acre. Potential owners could obtain free patent to the land if they cultivated it for 5 years. The Federal Government's primary objective of creating private land ownership continued. By 1867, while John Wesley Powell explored the Colorado River, seven States—Dakota, Iowa, Kansas, Minnesota, Missouri, Nebraska, and Wisconsin—offered tax breaks for tree planting.

After nearly a century of Federal land disposal, public concerns mounted over the way land and natural resources were being used. Wisconsin instigated an inquiry into the condition of its forested lands to determine how badly they had been exploited and burned. There was even more cause for alarm after the Peshtigo fire swept over rural Wisconsin in 1871, killing more than 1,200 people and burning 2,400 square miles of forest. The fire had been started to clear farmland.

J. Sterling Morton, who would later become a Secretary of Agriculture, celebrated the first Arbor Day in Nebraska in 1872. The same year, the State of New York appointed a commission to study the merits of establishing a forest preserve in the Adirondack Mountains. Bernhard Fernow, a German-born professional forester, helped that commission draft legislative language to create that preserve. Ironically, Fernow would later be fired as Dean of Cornell University's forestry school for removing timber by clearcutting from a university experimental tract on the preserve.

Tree planting became public policy in 1873, when the Timber Culture Act offered 160 acres of public land to any person who would plant 40 acres of trees (not more than 12 feet apart) and keep them healthy for 10 years. Any homesteader who submitted proof of having cultivated 1 acre of trees for each 16 acres on his homestead claim was entitled to patent his land at once. The law was later deemed a failure because of misrepresentation and fraud on the part of the homesteaders.

The 1870s was also the decade when the American Association for the Advancement of Science (AAAS) adopted a resolution favoring the creation of Federal and State forestry commis-

sions. Franklin B. Hough chaired the committee that the AAAS appointed to follow up on this recommendation. Although Dr. Hough was not a forester, but an avid naturalist, he would later become the first director of the Department of Agriculture's Division of Forestry.

By 1874, President Ulysses S. Grant—responding to rapidly disappearing forest land, catastrophic fires, and the growing public interest in conservation—had sent a special message to Congress citing the need for forest protection. Congress ignored his message.

The following year, the American Forestry Association was founded in Chicago and, in 1882, the American Forestry Congress merged with it. For more than 125 years the organization has worked on behalf of forest protection and conservation. It is currently called American Forests.

An 1876 rider on the appropriations act provided the Department of Agriculture $2,000 to employ Franklin B. Hough to study and report on forest conditions—setting in motion the activities that led to the creation of State and Private Forestry programs. Congress also modified the Timber Culture Act to make allowances for insect and disease damage to the forests that homesteaders had acquired. The first forest reserve bill was introduced to Congress in 1872 but was not acted upon. Between 1872 and 1897, nearly 200 forestry-related bills were introduced.

In 1882, the first American Forest Congress was held in Cincinnati, OH, where 50,000 spectators gathered to watch national celebrities plant trees to honor distinguished Americans. Nationally, public interest in the future of forests was growing at an extraordinary rate.

By 1885, California, Colorado, Minnesota, New York, and Ohio had State forestry agencies, and in 1886, Congress gave statutory recognition to forestry in the Department of Agriculture by creating a distinct Division of Forestry.
Bernhard Fernow, from New York State, took charge of the division. Fernow campaigned tirelessly to urge the creation of State forestry agencies and associations and to encourage them to engage in fire protection and tree planting. He was often successful, but by 1900 there were only nine State agencies or associations.

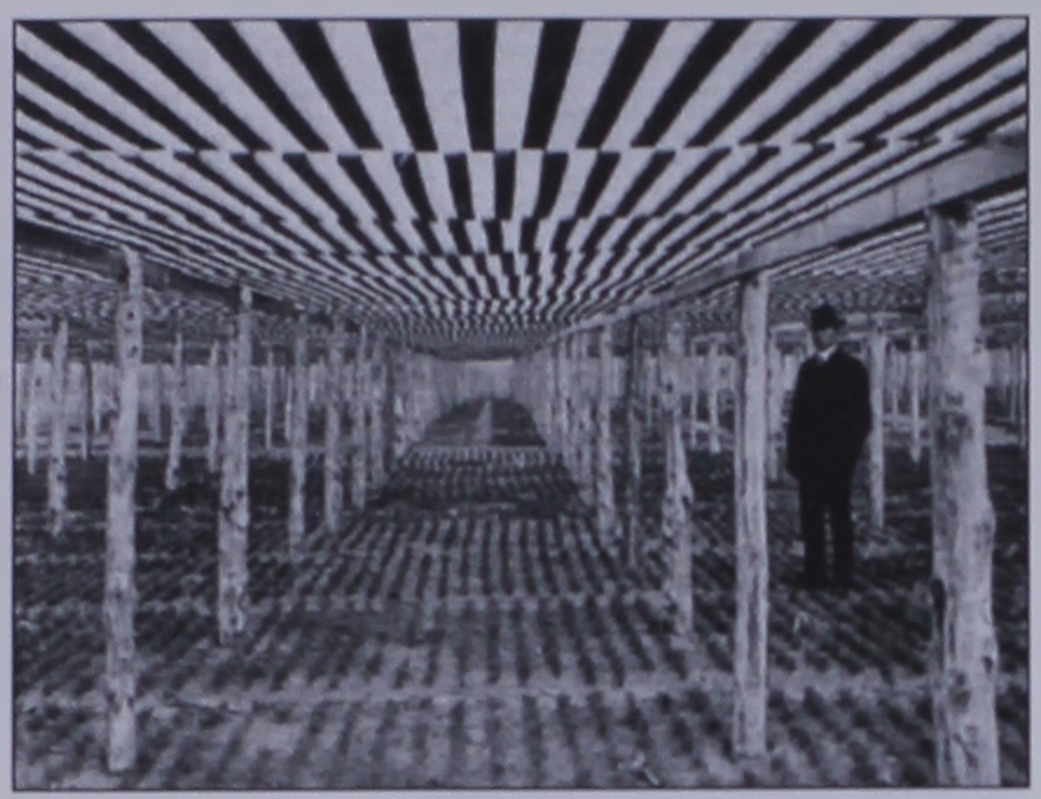
After the President established millions of acres of new forest reserves on February 22, 1897, congressional leaders in the West were outraged. An appropriations bill rider specified the purposes for establishing forest reserves (the forerunner of the national forests) under the jurisdiction of the

USDA Forest Service

Bernhard Fernow.

Department of the Interior's General Land Office and the provisions for their protection and administration. At the Department of Agriculture, Gifford Pinchot succeeded Bernhard Fernow as Chief of the Division of Forestry. Pinchot launched a major effort (Circular 21) "to advise the owners of woodlands as to the proper care of same." He and the division staff developed free working plans for woodlot owners; larger timber owners had to pay. Pinchot, in his memoirs, said, "By June 30, 1899, the end of my first year in the division, 123 lumbermen, farmers, and others had asked for help in starting forestry on a million and a half acres of timberland in thirty-five States. Forty-eight applications were for large tracts, seventy-five for farm woodlots." The division also studied trees, tree planting, and forest fires—an effort that fully set in motion State and Private Forestry's fundamental mission that continues today. Gifford Pinchot's Division of Forestry found itself flooded with requests and increased the number of professional foresters on staff from 2 in 1898 to 153 by 1905.

At the same time, Congress had enacted what became known as the "Dead and Down Act," which allowed the President to permit American Indians to cut and sell dead and down timber from Indian reservations. The Office of Indian Affairs had permitted timber harvesting before 1889 on a case-by-case basis. As a result of the



USDA Forest Service.

In Nebraska, in the 1890s, the action was well under way to plant trees in the Sandhill Country. These nursery beds at Halsey in 1903 attest to that interest.

Dead and Down Act, the Office of Indian Affairs began to manage tribal forests for future generations. The Office of Indian Affairs, however, had no trained foresters. The result was that Indian agents were often talked into timber contracts that led to fraud on reservation forests. This was especially true in the 1880s. When loggers in Minnesota's Chippewa reservation began harvesting timber and found little dead and down timber, they began to cut green trees and burn live trees to create "dead" timber. Although the contract specified 2.75 million board feet, they actually harvested 17 million.

Formal cooperation between the Forestry Division of the Department of Agriculture and the Department of the Interior began when the Morris Act passed in 1902, expanding the Dead and Down Act by providing for Department of Agriculture foresters to supervise logging on ceded Chippewa tribal lands in Minnesota. Gifford Pinchot anticipated that the Morris Act would "...allow the first application of forestry to government-owned forests in America." Forestry Division timber sale requirements were so disliked by area lumber companies that Pinchot mailed a pistol to his local inspector, Eugene G. Bruce, so that Bruce could protect himself. The area in question later became the Chippewa National Forest.

In 1902, the Division of Forest Insect Investigations was established in the Department of Agriculture's Bureau of Entomology and Plant Quarantine to study insects affecting forest and shade trees and forest products, and to act as a clearinghouse for advice on how to deal with insect outbreaks on national forests, national parks, and Indian reservations. The U.S. Bureau of Plant Industry's Division of Forest Pathology had responsibility for investigating plant, forest, and shade tree diseases, as well as the decay of lumber and other forest products.

In 1908, a cooperative agreement between the Interior and Agriculture Departments gave the Forest Service supervision over Indian reservation timber lands. The agreement was terminated a year later because of differences in the goals of the foresters and the Indian agents, and the difference in attitudes toward natural resources between Presidents Theodore Roosevelt and William Howard Taft.

Also in 1908, the General Indian Act was made law, creating a Forestry Division within the Office of Indian Affairs. Jay P. Kinney was the first Chief Supervisor of the Forests. He organized a force second only in size to the Forest Service to manage Indian timber lands.

Formal Opening of Cooperation with States (1911–1944)

As a new century began, people such as the Department of Agriculture's Bernhard Fernow and Gifford Pinchot had "hired out to be tough" in response to what was happening to America's forests. They knew then, as we do now, that hard work and cooperation make progress possible. The need for forest protection and conservation had become increasingly evident, but there was a rough road ahead.

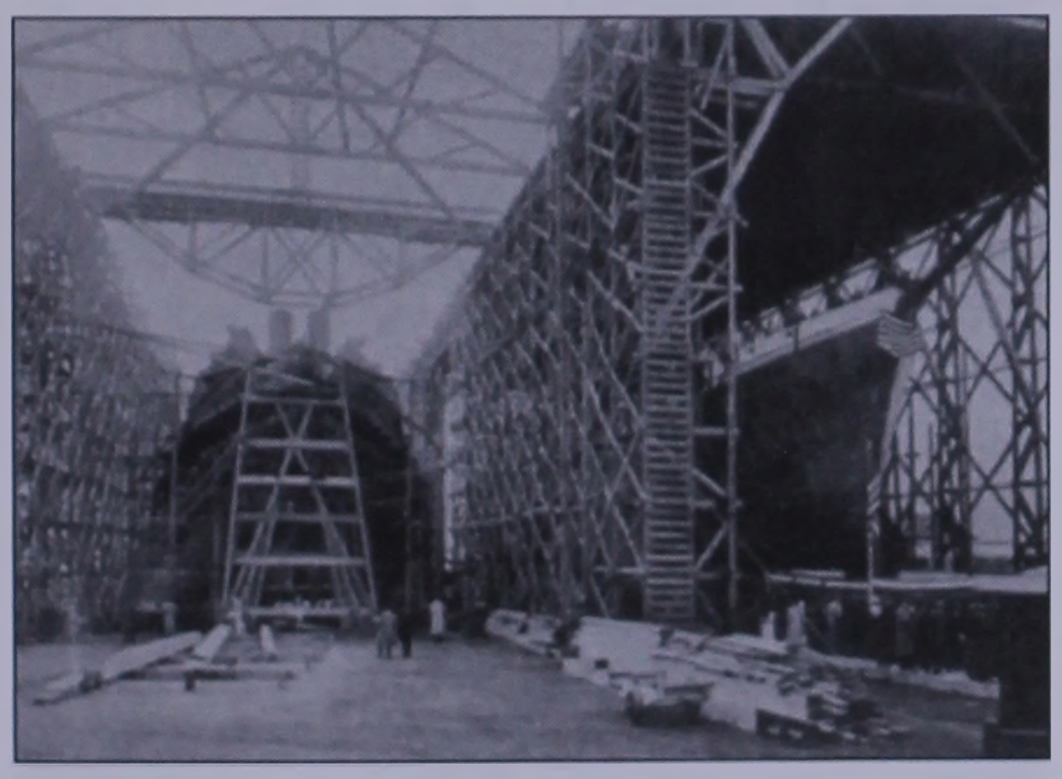
The early cooperative forestry programs with private landowners were the first applications of scientific forestry in America. The basic ideas were simple: control wildfires and arson and control insects and disease. The philosophy was to provide landowners with the education and technical assistance they needed to plant and nurture forests on private land, both for natural resource protection and for eventual profit.

When Gifford Pinchot took over the Division of Forestry from Fernow, he picked up the pace of working with States. In 1905, responsibility for the forest reserves was transferred to the Department of Agriculture and consolidated with the duties of the Division of Forestry into a new agency called the Forest Service. Pinchot was reluctant to give up his agency's cooperation with newly formed State forestry agencies and private forest landowners, and, in 1908, the Forest Service established a Division of State and

Private Cooperation to prepare planting plans for railroads and coal companies and cooperative ventures with several States. In 1911, future Forest Service Chief William B. Greeley was named the division's director.

By 1911, 14 States—Illinois, Wisconsin, Ohio, Colorado, Connecticut, Maine, Maryland, Massachusetts, Vermont, Washington, Minnesota, New Jersey, New York, and Oregon—had entered into cooperative agreements with the Forest Service, and the enactment of the Weeks Law authorized interstate compacts for the conservation of forests and water supply. It also authorized $200,000 to enable the Secretary of Agriculture to cooperate with any State that had by law provided a system for forest fire protection.

Pinchot also operated with a cooperative and conciliatory attitude toward the forest products industry. It was his hope that the industry would begin to use conservation approaches to its business to assure adequate timber supplies for the future. As time passed, however, Pinchot found that too many forest products companies were in it only for short-term profits. Increasingly, Pinchot and many other conservationists began to believe that Federal forestry regulations would be required to assure sound forestry practices across the Nation.



USDA Forest Service

The Forest Products Laboratory (FPL) was called into action in 1918 to design wooden propellers for fighter airplanes.

Around 1914, the Oregon State Board of Forestry and the Oregon Forest Fire Association successfully backed a measure that made it mandatory for forest landowners to patrol their lands for fire. Within 2 years, the amount of land under protection had doubled. The State of Washington enacted a compulsory control law in 1917. The Forest Service and the Cooperative Extension Service began a long-standing feud over their respective roles in reaching forest landowners. The Forest Service established an Office of Cooperation with Private Timber Landowners under the direction of E.S. Bryant.

By 1915, 31 States and Hawaii had set up State forestry departments, but spending for forest fire protection for all States was meager. Seventeen States, some with serious fire potential, were without laws providing for forestry administration.

During World War I, the Forest Service's State and Private Forestry Division provided considerable assistance to and cooperation with the Army in finding Federal and private wood sources, especially spruce for airplanes and fir for ships.

In 1918, Forest Service Chief Henry Graves, along with Frederick E. Olmstead and Gifford Pinchot, started a combined effort to bring public control of timber cutting to private lands. Graves, in particular, spoke throughout the country calling for practical forest management on both public *and* private lands. Oregon's State Forester Francis Elliott called for the Federal Government to investigate and classify all lands in his State for their sustainability for either agriculture or timber production. In his 1919 annual report, Elliott noted that while the Forest Service was doing a commendable job of managing the national forests, there were large acreages of private timber "...being rapidly mined...and then left unproductive."

The first meeting of what was to become the National Association of State Foresters was held in Atlantic City, NJ, on November 12 and 13, 1920, where 16 of the 32 States with forestry departments were represented. Forest Service Chief Greeley called the meeting to mobilize support for what was to become the Clark-McNary Act. On December 8 and 9, the National Association of State Foresters (NASF) was formally organized in Harrisburg, PA, where Gifford Pinchot had been made State Commissioner of Forestry.

Pinchot was at odds with Greeley. He believed that Greeley was pushing for State control over a set of problems that were clearly the concern of the entire country. Pinchot's suspicions were correct. Greeley told the State foresters that he favored cooperative assistance to States—not only in fire prevention, but in any phase of forestry or forestry research. Greeley believed that the role of the Federal Government was to influence State legislation.

Several laws during the 1920s helped further the State and Private Forestry mission. The General Exchange Act of 1922 enabled the Secretary of Agriculture to exchange National

Forest System lands with States and private parties for lands of equal value. The Clark-McNary Act of 1924 authorized the Forest Service to cooperate with the States in forest fire protection and tree planting and promoted the efficient management of woodlots and shelterbelts.

USDA Forest Service

The Clark-McNary Act of 1924 greatly improved forestry practices, especially fire protection and reforestation, on State and private lands. Trees were tamped into the transplant beds like this one on the Monongahela National Forest, WV.

After the Clark-McNary Act was enacted, a dramatic change began to occur in the State agencies. Several of the States began to hire and train more skilled employees. But it was slow going. Just 7 years after the act became law, the stock market crashed and the Nation fell into the Great Depression that, in some States, lasted until the United States became involved in World War II in 1941.

Although the Conservation Education program would not become part of State and Private Forestry until much later in its history, the late 1920s also saw the beginnings of the Forest Service's early conservation education efforts. Catastrophic events such as wildfires and the need to replant the overharvested and abandoned private lands that formed the nucleus of the eastern national forests caused women such as Priscilla Edgerton and Margaret Mount-March to take leading roles in conservation education. In 1928, these early efforts were followed by the institutionalization of conservation education in the Forest Service Manual. This early manual promoted cooperation with schools and publications for children, noting the importance of education in "promoting the best use of all resources in the country—public and private."

In 1933, to increase public acquisition of forest land and to regulate private forest practices, Forest Service Chief Ferdinand A. Silcox launched a program aimed at increasing public cooperation with private landowners in the application of forestry. A survey of State foresters indicated that they favored regulation only as a last resort. If regulation were to come, they said, it should be by State or local action, not with Federal control. Chief Silcox continued to call for public controls over private timber land operations—a debate that came to a temporary halt only when President Franklin Delano Roosevelt suspended Federal rulemaking during World War II.

In 1934, the Prairie States Forestry Project (commonly called shelterbelts) was started with emergency funds. It was administered and initially funded by the Forest Service.

USDA Forest Service

The Prairie States Forestry Project started by the Forest Service in 1935 proved to be an outstanding cooperative effort between the Federal Government and individuals. Shelterbelts planted in 1939 protected farms against damaging north winds. In just 2 years, the protection helped Kansas' fields produce an excellent crop of wheat.

In 1933, the Copeland Report, *A National Plan for American Forestry*, was issued. Prepared by future Forest Service Chief Earle Clapp, the report was sharply critical of Federal and State commitments to forestry. It said that the Federal Government should take a predominant role in growing trees.

The Federal conservation role continued to expand. In 1937, President Roosevelt established a Joint Congressional Committee on Forestry to study the present and future situation of the Nation's forested land. The resulting report, issued in 1941, recommended Federal financial assistance to the States to regulate their forest practices, but it did not suggest the acquisition of private forest land.

Another cornerstone of State and Private Forestry programs is the principle of matching the Federal financial investment. In 1940, the Lea Act set up a cooperative program for protecting forest lands, irrespective of ownership, from white pine blister rust provided that Federal funds be matched by other governments, individuals, or corporations on State and private land. Today, our non-Federal activities leverage from $1 to $15 for each Federal tax dollar invested.

The Smokey Bear Forest Fire Prevention Program, a cooperative venture among the Forest Service, the State foresters, and the Advertising Council, was initiated in 1942. After World War II the focus of the Smokey Bear campaign was broadened to appeal to children as well as adults. In 1953, the Forest Service launched the Junior Forest Ranger program to complement the Fire Prevention Classroom. Both programs continue today, and Smokey Bear continues to be cited as the most effective public information campaign ever.

USDA Forest Service

A young Judy Bell with a young Smokey Bear. Circa 1950.

During World War II, the Forest Service and the War Production Board created the Timber Production War Project. State and Private Forestry was a full-time member and lost its autonomy to the War Production Board—a board put to work getting gasoline and other strategic operating materials in short supply, and even intervening with draft boards to get the labor needed to maintain timber production for the war effort. The War Production Board stimulated lumber, veneer, pulpwood, and other forest products production. Loggers, sawmill operators, and others in the industry were skeptical about cooperating with the Government until they discovered they could get rationed gasoline, tires, and trucks to keep their operations in business during the war. The Forest Service helped the industry plan and develop logging roads and milling techniques and supervise timber marking.

A largely volunteer Forest Firefighters Service was authorized by the Office of Civil Defense during World War II to help protect communities from enemy agents who might try to set the forests afire. Objectives were to get firefighters equipped and trained to augment local forest fire protection agencies, to educate people on their responsibilities in fire prevention and suppression, and to give people living in and near forested areas an opportunity to contribute to the war effort. The War Forest Fire Cooperation Program strengthened fire protection on strategically important forests. For the first time, women were encouraged to join the Forest Service workforce.

Emergence of New Conservation Ideals After World War II (1945–Present)

Tensions built up by the threat of forestry regulations over the decades effectively ended the honeymoon between the Forest Service and the forest products industry. There is some question about whether the forest products industry could have survived during World War II without the intervention of State and Private Forestry. Following World War II, there was a divorce. The Forest Service announced that it would change the emphasis of its State and Private Forestry programs to focus on conservation of smaller forest tracts owned by farmers and other

private landowners. The industry withdrew its support of the Forest Service and recommended that Congress abolish it and give the national forests to the States. As threats of forestry regulation began to wane, industry pressures to eliminate the Forest Service generally disappeared.

The relationship between the Forest Service and the State foresters had come full circle. The State foresters were increasingly dissatisfied with how the Forest Service was treating them and with the degree of cooperation the Forest Service was extending.

But this situation is only a reflection of the transition that had taken place in the relationship between the Forest Service and the States. When the Clark-McNary Act became law in 1924, many of the States did not have forestry departments. Many of those that did had poorly trained, poorly paid employees. They needed Federal "inspectors" to measure the quality of their work and provide technical assistance. Now the States were seeking equality and respect. In 1946, the Association of State Foresters solicited the friendship, help, and support of both the forest products industry and the Forest Service. The State foresters were in turn willing to pledge their assistance for policies they believed would promote better forestry. The State foresters were no longer the "baby brothers" of the Forest Service—nor of the industry.

The new Congress was increasingly conservative and averse to spending. Richard McArdle, then-Assistant Chief for State and Private Forestry, called for closer Federal-State coopera

USDA Forest Service

Cooperative State and Private Forestry activities of the Forest Service grew in numbers and variety after World War II. Reforestation programs became major joint cooperative efforts.

tion in providing direct assistance to small forest tract owners. He called it the key to present and future timber supplies. A series of laws would soon pave the way for significant gains in cooperative forest management.

In 1947, the Forest Pest Control Act became law, declaring protection of all forest lands, irrespective of ownership, from destructive forest insect pests and diseases, was the Federal Government's policy. It authorized the Secretary of Agriculture to cooperate with States and other agencies to conduct surveys for detecting infections and infestations and to devise control measures.

In 1949, the Clark-McNary Act was amended to authorize increases in cooperative forest fire protection to a maximum of $20 million each year. Additional increases provided money for growing tree stock for farmers and for the land grant institutions to educate farmers to manage their forest lands.

The Federal Property and Administrative Service Act authorized the Forest Service to loan excess Federal property to State foresters for their fire programs. Today, this program has an annual value of $30 million to the States.

The United States Supreme Court upheld a Washington State Supreme Court decision that the State has the authority to regulate timber harvesting.

The Cooperative Forest Management Act of 1950 gave the Forest Service the authority to extend management and technical assistance to all classes of forest owners. But the Forest Service said it would concentrate on small ownerships.

Other significant events that occurred in the 1950s included the Granger-Thye Act, which authorized the Forest Service to perform work on either public or private lands where it was justified by public interest. The Smokey Bear Act provided formal protection for Smokey's name and character. State foresters became the primary partners in the fire prevention program.

The Secretary of Agriculture transferred personnel from the Division of Forest Insect Investigations, Bureau of Entomology and Plant Quarantine, to the Forest Service Division of Forest Insect Research.

The 1956 Farm Bill authorized a new Federal/State public and private land reforestation program to help farmers convert crop land to forest land. Its popular name was the Soil Bank.

The Batelle Memorial Institute issued a report on the need for adequate forest fire prevention and control, and the need to define the

USDA Forest Service, 100 Years of Federal Forestry

In 1951, State and Federal foresters get together to study log grading procedures in Texas.

USDA Forest Service

Trees on slopes, row crops in the valley—an example of good land use. The farmers who owned this land cooperated with the Yazoo-Little Tallahatchie Flood Prevention Project in Mississippi.

problems. The report emphasized an urgent need to bring millions of additional acres under forest fire protection and was influential in getting Congress and the Executive Branch to increase cooperative fire management funding.

Because of the frequency of lightning-started fires in California and of the inexorable migration of human subdivisions into forested and brushy areas, wildfires were an increasing problem that threatened to overwhelm all firefighting agencies; so the Forest Service initiated an experiment called "Operation Firestop." Firestop was refined to involve all available firefighters from all available agencies to fight wildfires, no matter what their origin.

USDA Forest Service

The Yazoo-Little Tallahatchie Flood Prevention Project, a cooperative activity of the Forest Service, served as an excellent educational effort over the years in bringing about improved land use. In one 1954 project, Boy Scouts planted trees on severely eroded lands in Mississippi.

In 1958, Chief Richard McArdle initiated a series of conferences to discuss ways of improving the condition of small-sized forest properties on private lands. Following the conferences, McArdle set up a team in the Forest Service Division of Program Planning and Special Projects to prepare a "Small Woodlands Program for the Nation." After 2 years of studying the program, the division concluded that the problems associated with it were too expensive and controversial to resolve.

The 1960s and 1970s were an era of significant environmental legislation and activities by private organizations and nonprofit groups. In addition, the Nation's forest conservation agenda expanded into rural and urban communities. In 1963, the Kennedy Administration's Rural Areas Development (RAD) Program included major contributions from cooperative forest management because it provided technical forestry assistance to America's small woodland owners. For the next 3 years, the Forest Service promoted cooperative forestry as a major component of RAD.

In 1966, the State and Private Forestry field organization made a major change. A Northeastern Area headquarters was created in Pennsylvania to cover State and Private Forestry responsibilities for all northeastern States—from Missouri and Minnesota on the West to Maine in the East. In the Southern Region, State and Private Forestry programs were removed from the regional office in Atlanta and given their own headquarters in the same city. Their coverage was from Texas, Arkansas, and Oklahoma eastward, and included Guam

and the Commonwealth of Puerto Rico. Because of objections of western State foresters who were concerned that power blocs would emerge to dominate the National Association of State Foresters, a similar reorganization was proposed, but not approved, for the West. These fears later proved to be unfounded.

In 1966, the Forest Service, NASF, the Soil Conservation Service, and the Extension Service signed a memorandum of understanding spelling out their respective responsibilities in carrying out Federal forestry programs. Nevertheless, disagreements continued on a state-by-state basis.

This period also saw the expansion of authorities for cooperative fire suppression efforts. During the summer of 1967, more than 300 fires burned throughout the West. The Division of Cooperative Fire Control worked closely with a group of concerned State foresters to draft a proposed "National Fire Emergency Program." In 1968, the National Governor's Conference asked Congress to enact legislation to make Forest Service and Bureau of Land Management firefighting resources available when fires raged beyond a State's ability to control them. The same year, the Rural Development Act created a Rural Community Fire Protection Program, authorizing State foresters to organize, equip, and train rural firefighters.

Amendments to the Cooperative Forestry Management Act in 1968 authorized an urban and community forestry program. The amendments provided for government cost-sharing for urban forestry projects underway in States and permitted new projects as funding became available.

In 1968, Forest Service Chief Edward P. Cliff formally established the Forest Service environmental education program. He was convinced that wise use of the Nation's natural resources would be possible only if the public was educated about these resources. Chief Cliff chartered an environmental education training team to teach others both the principles of environmental education and the methods for teaching them to others. Thousands of Garden Club members, educators, Forest Service employees, and other Federal and State employees were trained and, in turn, taught others. Congress's support of environmental education was reflected in its inclusion in the National Environmental Policy Act of 1969, with language requiring agencies to provide environmental information to the public.

The Forest Service became a leader of environmental education during the 1970s. The National Environmental Education Act passed in 1970 specifically identified education as a way to improve the environment. In 1971, the Forest Service developed and published a curriculum called *Investigating Your Environment* that used science-based activities to develop skills for collecting, recording, and interpreting information about different parts of the environment. These materials, updated in the early 1990s, are considered among the best materials of their type ever produced.

During this period, the Forest Service also began a long-term partnership with the American Forests nonprofit educational organization, Project Learning Tree (PLT). PLT is now a premier provider of conservation education curricula to teachers. Through its partnership with PLT, Forest Service conservation education has reached thousands of teachers and millions of students over the last two decades. In 1974, Woodsy Owl, under Forest Service guardianship, was established as the Nation's environmental icon. His message of "Give a Hoot, Don't Pollute" was learned and repeated by millions of school children and adults during these years.

USDA Forest Service

The original Woodsy Owl, circa 1974.

Between 1971 and 1974, California, Oregon, and Washington enacted comprehensive State forest practices acts affecting management of private lands in those States. The Forestry Incentives Program, established by the 1974 Farm Bill, authorized financial assistance for owners of NIPF lands through long-term contracts for tree planting and timber stand improvement.

Jimmy Carter Library

President Jimmy Carter, a tree farmer, called for increased productivity from NIPF lands.

In 1972, the National Arbor Day Foundation was established in Nebraska—the home of the first Arbor Day. In 1975, the Forest Service supported the National Arbor Day Foundation in launching the Tree City USA program that supports community forestry; today, 2,200 Tree Cities flourish throughout the country.

When he was President, Jimmy Carter, a tree farmer, called for increased productivity from NIPF lands. He asked the Secretary of Agriculture to conduct a comprehensive study to determine what new initiatives would work better than existing programs. The study's outcome showed that existing programs worked well, but that they were inadequately funded.

The Cooperative Forestry Assistance Act of 1978 consolidated previous laws dealing with State and Private Forestry and reaffirmed the Federal role in assisting private forest landowners and communities to improve management of the Nation's forest resources through voluntary, nonregulatory technical and financial assistance programs. The law also provided block grants for each State to develop and implement State forestry plans.

In 1978, then-Secretary of Agriculture Bob Bergland brought all USDA conservation agencies together. Each agency head signed off on an agreement that spelled out its responsibility for carrying out the Department's land and water management programs. Although Federal downsizing, profound program changes, and a steady pattern of budget cuts have reduced much of the competition, it still exists to some extent.

The year 1978 also saw 250 people attend the "First Biennial National Urban and Community Forest Conference." Six more conferences have been held since, each with higher attendance than the last.

In 1979, the NASF held a series of regional meetings with small forest tract owners to define their needs and priorities. In a national conference held later that year in Washington, DC, then-Secretary of Agriculture Bergland told those attending that the only real opportunity to assure an adequate future timber supply was to provide NIPF landowners with tax relief and technical assistance. Former Forest Service Associate Chief, Rex Ressler, then-Executive Vice President of the American Forestry Association, had similar priorities, but he said a "tight budget climate" might make any new initiatives impossible. Ressler said a broad coalition of forestry interests would be necessary for progress to occur. The coalition did not materialize.

In 1980, the NASF, for the first time, formulated and published its own list of goals to express its freedom from the Forest Service for leadership in forestry. Congress also enacted the Forest Investment and Tax Credit Act to encourage forest landowners to regenerate their forest lands.

The 1980s also saw more interest in the U.S. Government's relationship with American Indian and Alaska Native tribal governments. The Reagan Administration consistently supported tribal self-determination and government-to-government relationships. The Forest Service became more active in this arena as well.

The 1980s also saw the development of more program-specific conservation education efforts such as NatureWatch (wildlife), Passport in Time (heritage) and Leave No Trace (recreation). Focused on specific resources, these programs complemented the greater conservation education program. These programs, collaborations of public and private partners, provide many diverse

ways to learn about natural resources. Examples include educational activities, festivals, nature trails, interactive displays, educational computer programs, brochures, classes, and active participation in natural resource activities.

Collaborative efforts also expanded in the 1980s. Partnerships with State foresters and State departments of natural resources continued to expand. New partners, such as the National Environmental Education and Training Foundation and National Association of Conservation Districts, joined Forest Service conservation education efforts.

In 1982, the NASF approved the reengagement of the Southern State and Private Forestry office with the Southern Region of the Forest Service in Atlanta.

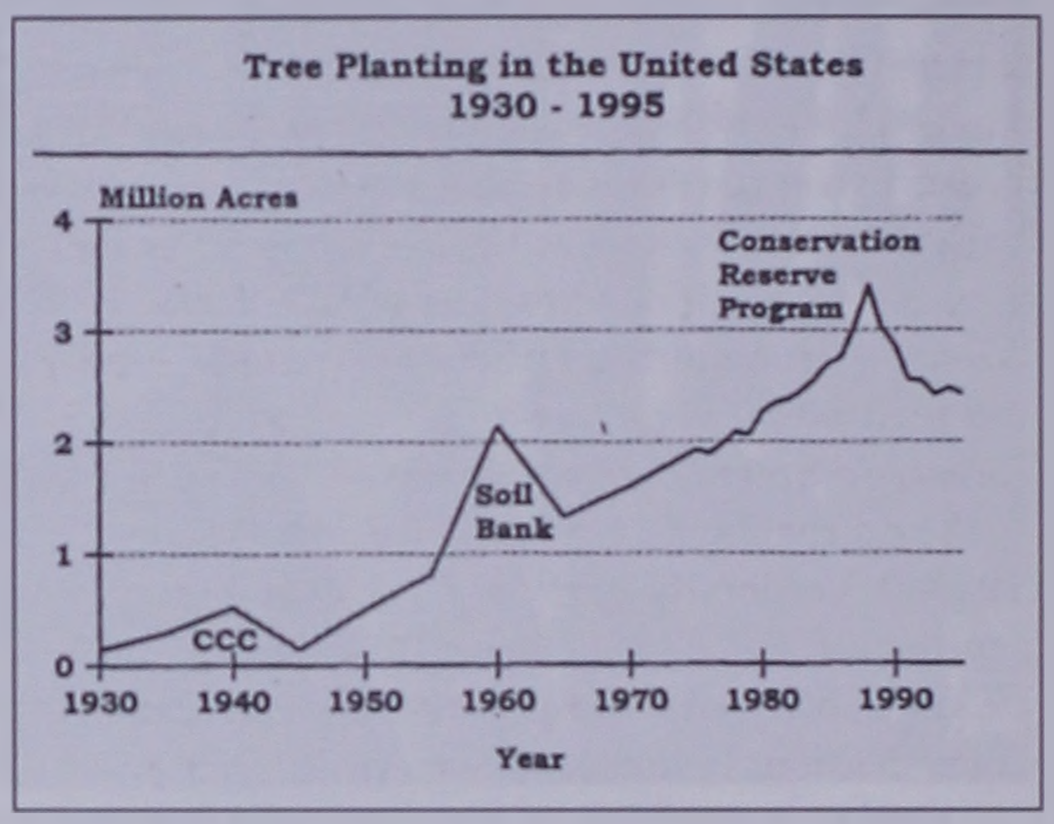
The State foresters also thought that funding for NIPF programs should be given a high budget priority, because such forest owners would be the major timber producers of the future. They claimed that a disproportionate amount of money was being allocated to National Forest System programs at the expense of State and Private Forestry.

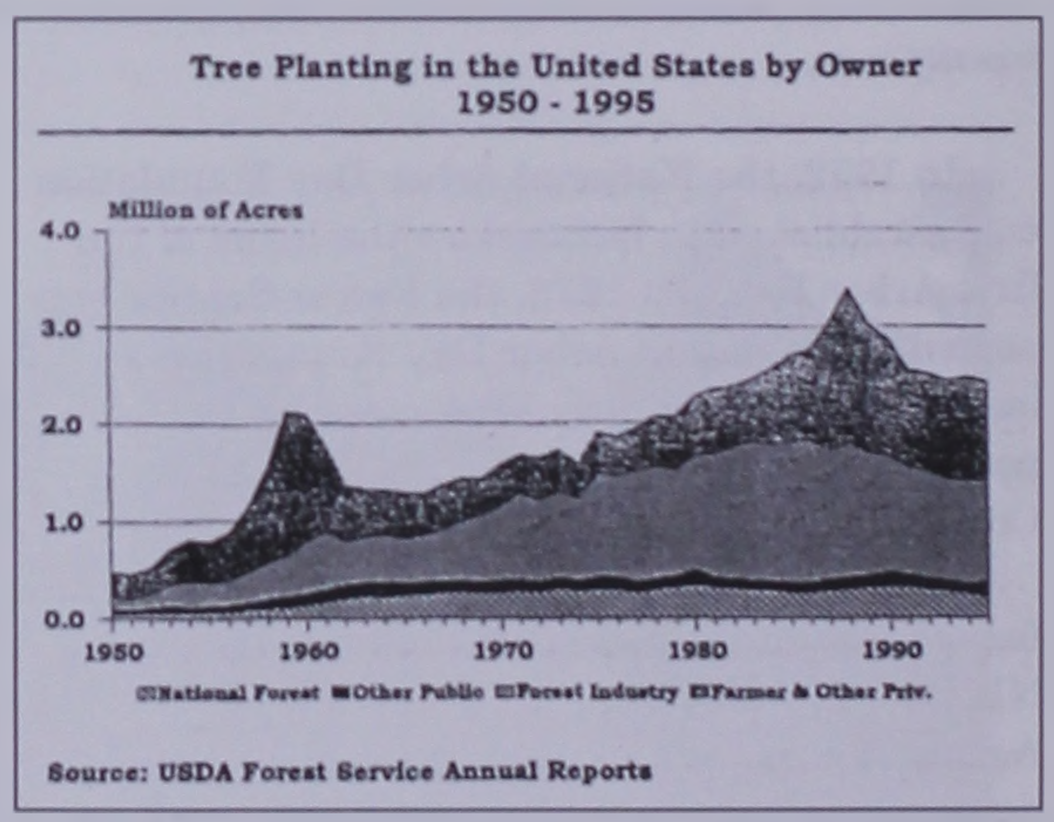
In 1985, following a Colorado State University study, the Forest Service and the States developed a new cooperative fire policy. The study determined that forest fire protection was primarily the States' responsibility and that it was not appropriate to use Federal funds to operate the States' programs. Federal efforts were to focus on technology transfer, information collection, or efforts that would produce benefits across State lines or in the national interest. The Cooperative Fire Program's new mission was to—

- Maintain and improve fire protection efficiency and effectiveness on non-Federal wildlands;
- Achieve national benefits that exceeded Federal expenditures for fire protection on non-Federal wildlands; and to
- Cooperate, participate, and consult with the States on fire protection for non-Federal wildlands.

The Forest Service and the NASF implemented their future direction and program emphasis guidelines for cooperative forestry programs in 1987. The document, signed by Deputy Chief for State and Private Forestry Allan J. West for the Forest Service and James A. Stearns for the National Association of State Foresters, says, "At a time when constrained budgets call for careful program planning, direction, and management, [these guidelines] can serve as a means of developing support for the key programs that have been emphasized."

In 1988, the Secretaries of Agriculture and the Interior signed an agreement to support tribal government self-determination and identified both Departments' responsibilities for providing programs to American Indian and Alaska Native tribes. Forest land and resource management plans began to consider tribes and their rights in their scoping, public involvement, and consultation processes. The Forest Service revised the Forest Service Manual to reflect its improved and revised American Indian and Alaska Native policies.





The 20th century's peak tree planting year was also in 1988 with 3.4 million acres planted across all ownerships. The Forest Service began to publish *Tree Planter's Notes*, a technology transfer publication that provided new research findings and practical information for tree planters and nursery managers.

The Forest Service's policy for relationships with federally recognized tribal governments was established in 1989. Indian tribes own 56.6 million acres of land and Alaska Natives own anoth-

er 44 million acres. Thirty-four States have federally recognized Indian tribes; virtually all states have some Indian population. Forest Service planning programs, projects, and activities must now include government-to-government consultation with federally recognized American Indian and Alaska Native tribes on programs, policies, and activities that will affect them.

State and Private Forestry's Tribal Government Relations Program further grew when the 1990 Farm Bill directed USDA agencies to become more active with American Indian tribes. As a result, the Soil Conservation Service (now the Natural Resources Conservation Service) began placing staff on Indian reservations. The Forest Service, under the Farm Bill's forestry title (the first time a Farm Bill had included a forestry title), was also more responsive, establishing one position of the National Tribal Government Relations Program Manager, and including tribal lands in Cooperative Forestry's Stewardship Incentive Programs.

The President's Northwest Forest Plan (1993–94) officially increased involvement, grants, and sharing of Forest Service staff with Indian tribes. Historic preservation acts, such as the National Historic Preservation Act and other legislation, such as the Executive orders on government-to-government consultation with tribes, are now providing direct contract and consultation with American Indian and Alaska Native tribes. Because tribes are assuming more and more of their affairs, they are seeking control over technical assistance from the Forest Service, and they are providing knowledge and skills (including traditional ecological knowledge and skills) to the Forest Service.

The 1990 Farm Bill expanded State and Private Forestry programs significantly. Urban and Community Forestry Programs were strengthened and broadened and a National Urban and Community Forestry Advisory Committee (NUCFAC) was authorized. New programs included the Forest Stewardship, Stewardship Incentives, and Forest Legacy Program (FLP).

Other sections of the Farm Bill targeted additional economic assistance for rural communities dependent on forest resources. The Forest Service completed a 10-year comprehensive strategy, "Working Together for Rural America," in late summer 1990 (before the Farm Bill language was finalized) and officially released it in spring 1991 at a one-of-a-kind workshop in Spokane, WA. The plan was the first instance in which the Forest Service articulated a more collaborative approach in assisting rural communities.

The Forest Service is making lasting improvements in rural America by helping people solve their local problems in ways that improve the quality of the environment. This policy, the plan's goals, and the 1990 Farm Bill, laid the groundwork for a substantial change in how State and Private Forestry and the rest of the Forest Service does rural community assistance business.

With expansion of the Forest Service Urban and Community Forestry Program by the 1990 Farm Bill, education became one of its integral components. In response to the Farm Bill, the Forest Service joined with state forestry agencies and other partners to bring conservation education into urban communities. As the 1990s arrived, the Forest Service worked to better coordinate the many diverse education programs that had developed over the years. In 1991, the Natural Resource Conservation Education (NRCE) program was created as a "servicewide focused program jointly sponsored by the USDA Forest Service and the National Association of State Foresters" in response to a task force recommendation. From 1991 through 1994, NRCE reported to the State and Private Forestry Deputy Area, and from 1994 until January 1999, it was part of State and Private Forestry's Cooperative Forestry Staff. After Conservation's vision-to-action strategy, it came directly under the purview of the Deputy Chief for State and Private Forestry. The program was designed to move the public from awareness to informed actions about all natural resources, particularly conservation. Intended as a lifelong learning program, the various conservation education programs have helped national forests, grasslands, and prairies; State forestry agencies; and research units carry out approximately 200 projects each year.

Meanwhile in 1991, the Small Business Administration initiated a new tree planting program that provided matching grants to municipal governments.

In 1992, State and Private Forestry in cooperation with NASF initiated "Forest Products and Recycling: A New Program for People, Jobs, and the Environment" to increase economic opportunities from the full range of forest resources through market and community development.

Under pressure for development, many acres of private forest land are being converted and

fragmented every day. The Forest Legacy Program (FLP), added to the Cooperative Assistance Act in 1990, protects environmentally important forest areas from conversion to nonforest uses. The first Forest Legacy tract was acquired in 1993. Through the FLP, the Forest Service works with State foresters, local governments, land trusts, and interested landowners to conserve forest lands of regional and national significance from conversion to nonforest uses, ensuring that traditional uses and public values are protected on private forest land for future generations.

In April 1996, the Cooperative Forestry Assistance Act was amended to provide a State grant option for the FLP. With this option, the State transacts the FLP acquisitions and vests the title in a unit of State or local government. States can use FLP funds to purchase lands or interests in lands from willing sellers, facilitate the donation of lands, or use the funds for administrative expenses.

The FLP initially had limited support, reaching a funding low of $2 million in FY 1997. Realizing the situation, USDA decided to support the FLP through the Lands Legacy Initiative, which brought full White House backing for funding well above levels initially supported by Congress (from about $7 million in FY 1999 to $60 million in FY 2001). Support from the Administration, Congress, the States, and partners propelled the FLP from a small, underfunded effort to an important national program to protect private forest lands from development. By August 2000, the program had protected 118,655 acres in 12 States—22 States and territories were participating in the program, and another 9 States were developing or considering program plans.

Community forests have grown over the years. In 1993, community forests in about 45,000 cities and towns totaled about 10 percent of the Nation's forests. The number of urban areas receiving assistance in planting and maintaining trees has more than doubled since 1985.

The Forest Service recrafted its mission to include specific recognition of State and Private Forestry's rural community assistance responsibilities. Since then the National RCA Partnership Conference has become a primary training and networking tool for the agency and its partners, and additional workshops and task force efforts have continued to help the Forest Service pursue more collaborative approaches in working with communities and interest groups.

In October 2000, the Forest Service issued and updated an expanded National Strategic Plan for Economic Action Programs, entitled *Working Together for Rural America: 2000 and Beyond, Integrating Natural Resource Management and Rural Community Assistance.* The expanded strategy was the result of a nationwide series of 11 multi-State workshops that gathered information and built on the experience of people who know and care about rural communities, collaborative stewardship, economic diversification, forest products and technology, sustainable forest management, special forest products, local government, and many other topics.

The Rural Community Assistance Program was recognized as a semifinalist (top 100 out of 1,650 nominations) in the 1996 "Innovations in American Government" award program, sponsored by the Ford Foundation and the John F. Kennedy School of Government at Harvard University, for "programs and policies that represent creative, highly effective approaches to meeting public needs."

A "Symposium on Nonindustrial Private Forests: Learning from the Past, Prospects for the Future" was held in conjunction with the 1996 Seventh American Forest Congress in Washington, DC. It was attended by about 250 of the congress's 1,400 participants.

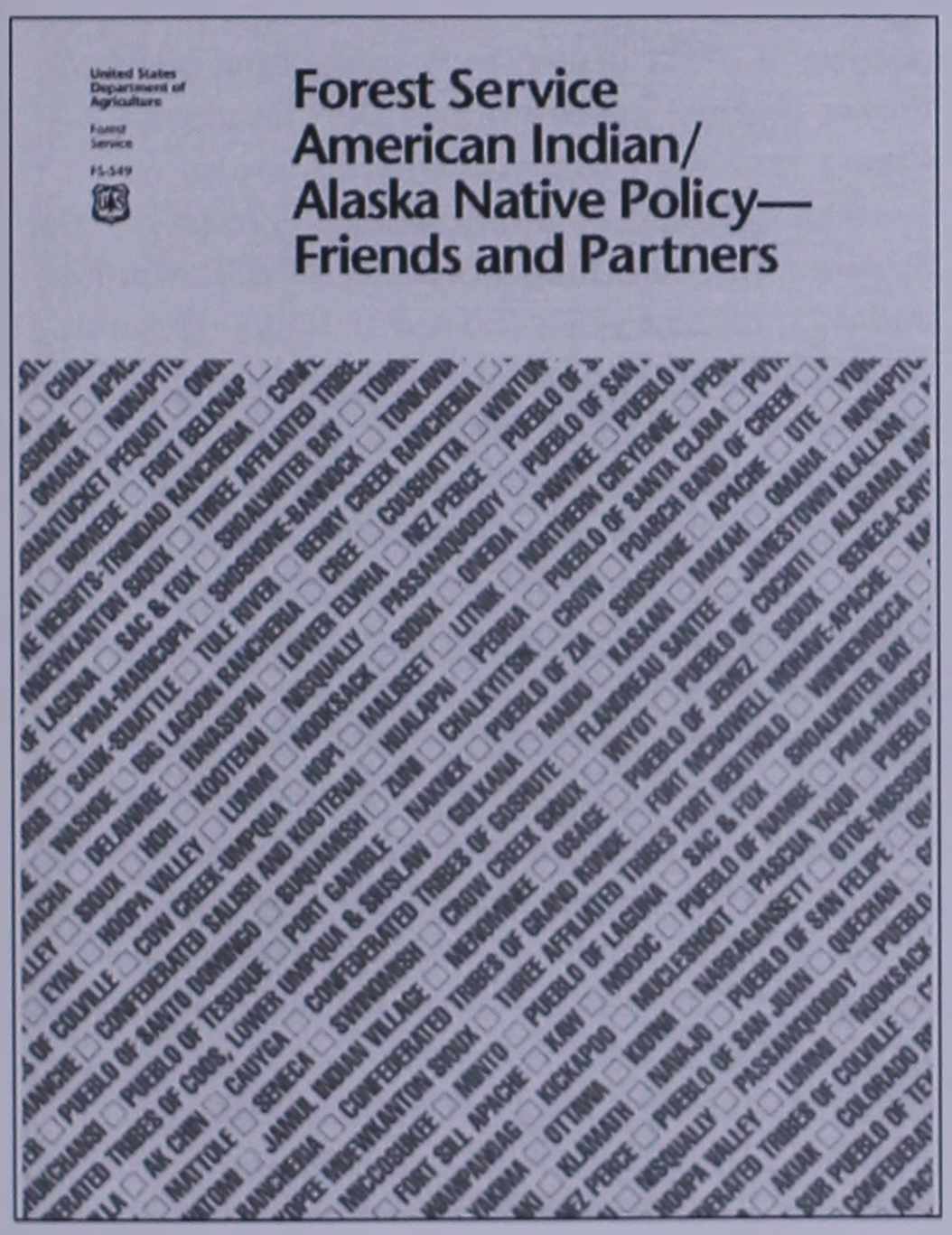
Congress provided specific authority in the 1993 appropriations bill for all Forest Service employees to become engaged in assisting rural communities. Each year since, the same language has been included "...funds appropriated for the Forest Service shall be available for interactions with and providing technical assistance to rural communities for sustainable rural development."

In 1994, American Forest and Paper Association's (AF&PA) board of directors approved the Sustainable Forestry Initiative in which its members supported the premise of sustainable forestry on their own forest lands and vowed to promote it on other lands. AF&PA members agreed to support efforts to protect private property rights and the ability of all private landowners to manage their forest lands sustainably.

The year 1994 was eventful for other reasons. President Bill Clinton met with tribal leaders at the White House and issued memoranda on the government-to-government relations and responsibilities with American Indian and Alaska native tribal governments. Joan Comanor became the first woman named Deputy Chief for State and Private Forestry. The Forest Service and the

NASF co-sponsored the "First Conference on Forest Stewardship" at Arbor Day Farm in Nebraska City, NE.

In 1995, State and Private Forestry first published *Tree Planting in the United States*, an annual report that summarizes tree planting, timber stand improvement, and nursery production activities on all ownerships in the United States. Trees were planted on a little more than 2.4 million acres, part of a steady decline from 1988 when almost 3.4 million acres were planted. Tree planting by industrial landowners was down 2 percent from 1994 and by 9 percent among NIPF landowners. The report found that the utility industry had increased its plantings to offset carbon dioxide emissions from power plants.



USDA Forest Service

The Forest Service Tribal Government Relations Program published this resource, *Forest Service American Indian/Alaska Native Policy–Friends and Partners*, in 1997.

Also in 1995, the Deputy Chief for State and Private Forestry established the Forest Health Technology Enterprise Team (FHTET) to develop and deliver forest health and technology services to Forest Health Protection (FHP) staffs and to other public and private forest management specialists. The FHP-sponsored core team supports the Forest Service in meeting its legal mandate to protect forest health. The second team, the entrepreneurial component, provides products and services on a cost-reimbursable basis to help FHP fulfill its mission. Over the last 5 years, FHTET has effectively used cutting-edge technologies, such as geographic information systems, insect and pathogen modeling, aerial photography, and data visualization to protect forest health.

In 1996, FHP initiated the Forest Health Risk Mapping effort to help determine the focus of national attention to address forest health concerns. In 2000, FHP initiated a team to accelerate and expand the development of risk mapping for insect and disease mortality, fire, wildland/ urban interface, and threatened and endangered species. The insect and disease mortality map has been completed and has been useful in integrating insect and disease risk into strategic planning and program development, and has supported programs on National Forest System lands.

In 1997, the Forest Service Tribal Government Relations Program published the Forest Service national resource book on American Indian and Alaska Native relations—the first publication of its kind—to help local managers work with and support American Indian and Alaska Native tribes. The publication was distributed to all Forest Service units, American Indian studies programs, and American Indian law programs. It is now in its third printing and will be updated within the next year.

In 1998, the National Research Council released its study, *Forested Landscapes in Perspective—Prospects and Opportunities for Sustainable Management of America's Nonfederal Forests*. The report covered non-Federal forests owned by industrial private landowners, NIPF landowners, American Indians and Alaska Natives, and State and local organizations. It focused on emerging environmental issues such as forest fragmentation, biodiversity, and availability of timber supplies, and gave particular attention to current program and policy initiatives and the information base for evaluating effectiveness and deficiencies. The report was instrumental in helping to dramatically increase funding for Forest Service programs that address sustainability on non-Federal forest lands.

In 1999, urban and community forestry received a boost when then-Secretary of Agriculture Dan Glickman keynoted the 9th National Urban Forestry Conference in Seattle. He launched a successful partnership initiative with American Forests to establish a grove of

American Forests famous and historic trees in every State, territory, and commonwealth, and in the District of Columbia during the year 2000.

In October 1999, the Forest Service's Chief Operations Officer commissioned a National Tribal Relations Program Task Force to develop recommendations for improving working relationships with American Indian and Alaska Native tribes. The task force was asked to identify key concerns, develop a strategic plan, and recommend long-term direction for working with tribes across regional boundaries in a consistent manner on land and resource issues.

In December 1999, the White House Millennium Council launched a "Millennium Green" initiative led by the Department of Agriculture and the Forest Service, with then-First Lady Hillary Clinton dedicating a white oak tree on the front lawn of the USDA Administration (Whitten) Building. This initiative spawned partnerships that led to many new tree plantings in cities and towns across the United States.

In June 2000, then-Chief Mike Dombeck and the National Leadership Team approved the recommendations of the Tribal Task Force Report, which are designed to improve the consistency and effectiveness of program delivery and institutionalize long-term collaborative relationships with tribal governments.

In the forest health arena, the year 2000 saw the Forest Service, USDA's Animal and Plant Health Inspection Service, and State and Federal cooperators implement the National Gypsy Moth Slow the Spread (STS) Project across the 1,200-mile gypsy moth frontier from North Carolina through the Upper Peninsula of Michigan. The project's goal is to use novel, integrated pest management strategies to reduce the spread of gypsy moths into uninfested areas. The STS Foundation, a nonprofit corporation representing Wisconsin, North Carolina, Virginia, West Virginia, Indiana, Illinois, and Michigan, has carried the gypsy moth battle across State lines.

In 2000, FHP published a report *Forest Insect and Disease Conditions in the United States 1998.* The report described the extent and nature of insect and disease-caused damage of national significance. It responded to the Cooperative Forestry Assistance Act of 1978's direction to conduct surveys of insect and disease conditions and report on them annually. "America's Forests: 1999 Health Update" focused on major forest health concerns and demonstrates how the Forest Service is working in collaboration with others to address them. It highlights ecosystem health issues, invasion of exotic pests, wildland/urban interface, air pollution, and degraded riparian areas.

Between 1996 and 2000, Forest Health Protection has improved forest health conditions by allocating between $15 and $20 million annually for pest suppression projects on National Forest System lands and other Federal, tribal, and cooperative lands.

By 2000, the Forest Health Monitoring (FHM) Program expanded to include 36 States, covering most of the forested land in the contiguous United States. This program provides statistically precise monitoring information for valuable baseline and health-trend information to manage ecosystems and to protect the health of America's forests. The Detection Monitoring Plot portion of FHM is also fully integrated with Forest Service Research and Development's Forest Inventory and Analysis Program.

The national evaluation of the Forest Stewardship Planning Program by R.J. Moulton and J.D. Esseks was released in 2000. It summarized the findings of a 1998–99 study of a ramdom sample of 1,238 NIPF landowners with approved multiple resource Forest Stewardship Plans (FSPs). The study found that two-thirds of program participants had never before received professional assistance in managing their lands. A large majority had begun to implement their plans; over one-half were undertaking practices that were new to them; and a majority of owners had adopted and were implementing multipurpose practices. More than 90 percent of the participants found their plans easy or very easy to understand, and 94 percent said they would recommend FSPs to other landowners. The researchers found that FSPs alone fostered improvements in stewardship behavior and that owners were significantly more likely to implement new stewardship practices, increase personal non-reimbursed dollar expenditures, and manage for multiple resource outputs when they also received followup planning assistance and cost sharing for installing such practices.

Cooperation Is Still the Key

As for Gifford Pinchot, he would help anyone who walked in the door who agreed to engage in "practical forestry." Pinchot's early clients regularly included large forest products companies. For both Pinchot and Fernow it was a crusade,

and as far as they were concerned, there was no time to waste; both could see national timber shortages over the horizon.

The Forest Service State and Private Forestry programs continue to focus on the owners of nonindustrial forest tracts who own 59 percent of the timber land in the United States. This land is divided among 10 million owners (only 600,000 of those landowners have holdings of more than 100 acres).

Those Who Have Led State and Private Forestry

William B. Greeley	1911–17
E.E. Carter	1917–26
Paul G. Redington	1926–27
Robert Y. Stuart	1927–28
J. Girvin Peters	1928
Fred Morrell	1928–35
Earl W. Tinker	1936–40
Ed I. Kotok	1941–44
Richard E. McArdle	1944–52
William S. Swingler	1952–64
Boyd L. Rasmussen	1964–66
E.M. Bacon	1966–72
Thomas C. Nelson	1972–73
Phil L. Thornton	1973–79
Einar L. Roget	1979–81
John H. Oman	1981–86
Allen J. West	1986–93
Joan M. Comanor	1994–97
Phil Janik	1998–99
Janice McDougle	1999–2000
Michael T. Rains	2000–2001
Joel Holtrup	2001–Present

As State forestry agencies have strengthened, so has their working relationship with the Forest Service. Today, the relationship remains strong and growing. Cooperation dominates the connection. Closely integrated partnerships prevail in providing technical assistance to landowners and communities to help protect against fire, insects, and disease. The effectiveness and value of these programs to the Nation is remarkable, yet often unrecognized.

Gifford Pinchot was enraged at the despoliation and tree mining that he saw on many of America's forests. He favored a tough regulatory policy toward landowners who refused to care for the resources that they owned. His position was that the government had virtually given away tens of millions of acres of land to settle the country quickly. He believed the public ought to have some say-so if some people refused to care for these gifts. At times, Pinchot and a few supporters, such as Bob Marshall, stood up to the entire American forestry establishment in their passion for regulation. But those views did not prevail, and the Forest Service's approaches today continue to be based on voluntary participation and incentives, not on regulation.

Conclusion

The State and Private Forestry programs of the Forest Service have been an important part of the Nation's growth and development even before the State and Private Forestry Division was established in 1908. The story of State and Private Forestry tells of programs created, abolished, and then created again; of enduring partnerships and new ones. It reflects the ongoing debate about the role of the Federal Government. The voluntary, nonregulatory programs of State and Private Forestry have been working well for nearly 100 years, and cooperation continues to be the key.

Forest Service Employees Were Part of Aircraft Warning Service

By Jerry Williams, National Historian, Washington Office

During the early days of World War II, the coastal forests of the United States were provided extra protection by what was called the Aircraft Warning Service. The service was established because Forest Service and War Department managers believed that the Japanese could—and probably would—attack the West Coast of the United States or at least set fire bombs in the forests to divert thousands of citizens and soldiers to extinguish the blazes.

The Aircraft Warning Service often used existing lookout stations that were staffed 24 hours a day, often by Forest Service husband and wife teams.

As most draft-age men were called into military service, the Forest Service began to employ women as fire lookouts at hundreds of stations along both coasts. With the advent of radar during 1943–44, the Aircraft Warning Service lookouts were gradually phased out.

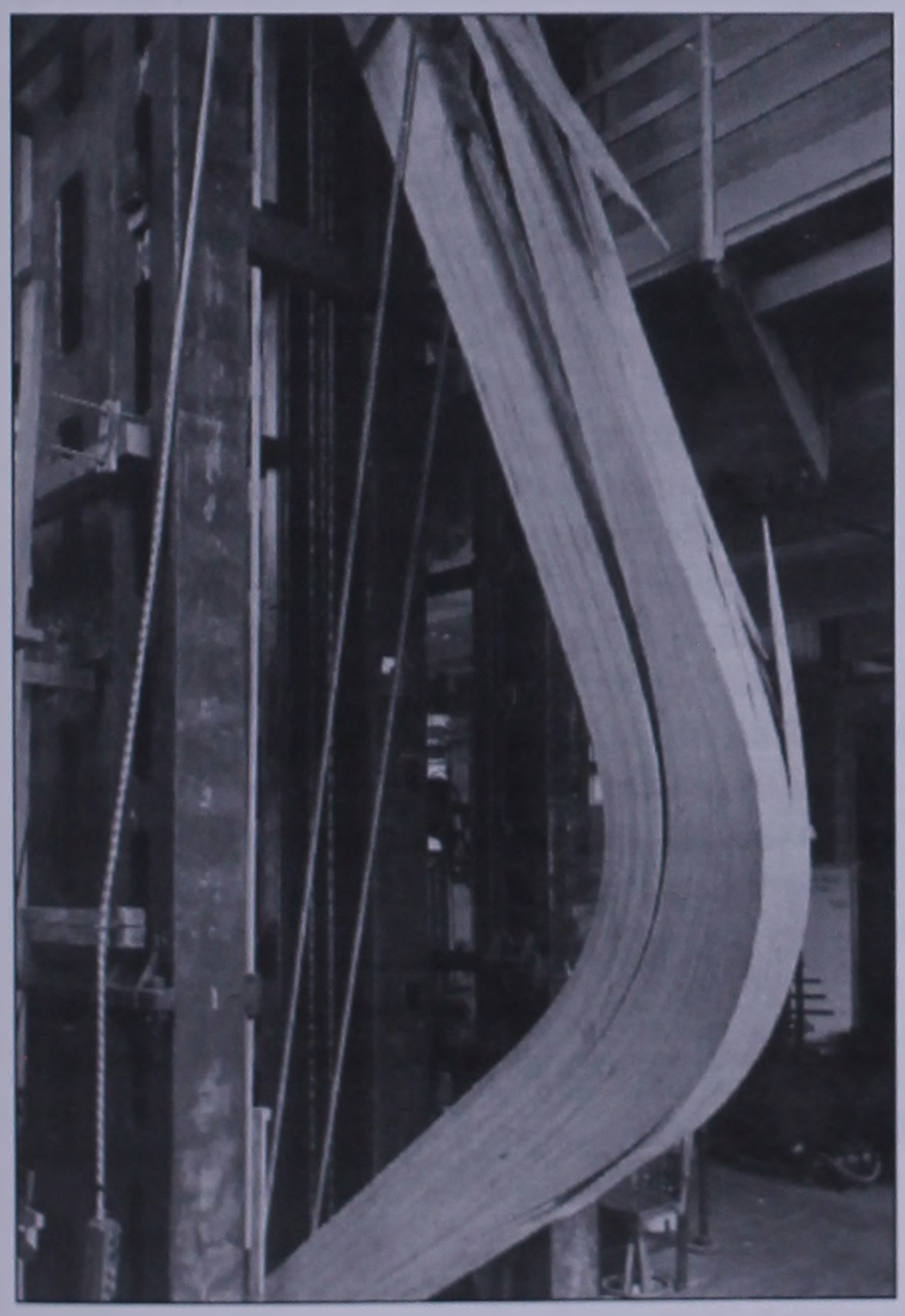
USDA Forest Service

Aeneas Aircraft Warning Service lookout. Okanogan National Forest, WA, 1943.

Structural Glued Laminated Timber and the Forest Service

By Andreas Jordahl Rhude, Consulting Historian,
Sentinel Structures, Inc.

Structural glued laminated timber, the grandfather of all engineered timber products, has been used in the United States for 70 years. It had a successful track record of more than 30 years in Europe before its first use in the United States in 1934. The USDA Forest Service, through the Forest Products Laboratory (FPL) in Madison, WI, played a vital role in the acceptance of this technology after commercialization began in the 1930s.



USDA Forest Service

A southern pine arch being tested at the Forest Products Laboratory in Madison, WI, in early 1935. The arch was made by Unit Structures of Peshtigo, WI, and was part of a series of tests to prove the strength and validity of the theory of glued laminated timber.

Structural glued laminated timber is produced by bonding layers of dimension lumber, called laminations, to each other with adhesive, under pressure, in a timber laminating facility. The grain of each lamination runs parallel along its length. This differs from plywood, another laminated product, in which the grain of each ply is at right angles to the grain of the previous layer. In structural glued laminated timber, the laminations are joined end to end by glued joints to form long boards. After adhesive has been spread on their surfaces, these long laminations are then stacked one upon another. The laminations are then placed in a form, or jig, and clamped together to create a single structural member of the required size, shape, and load-carrying capacity. No mechanical fasteners such as nails, lags, or bolts are used in the manufacturing process. Finished members can be straight, cambered, or curved to form shaped beams and arches. In the United States, the predominant lumber species used for laminated members are southern pine and Douglas-fir/larch, with lesser use of other softwoods and hardwoods. Beams 130 feet long and weighing 45,000 pounds and arches with a clear span of 300 feet are common. Buildings used for religious functions are one of the most recognizable applications of glued laminated timber.

The genesis of the technology in North America began at Peshtigo, WI, in 1934, when Max Hanisch, Sr., began designing and manufacturing glued laminated timber. He and his two sons, Max, Jr., and Herbert, joined the Thompsons of the nationally known Thompson Brothers Boat Manufacturing Company and formed Unit Structures, Inc., to manufacture glued laminated timber arches and beams. Unit Structures, Inc. was the first establishment in North America to use adhesive without nails, lags, or bolts in bonding wood laminations. The product's first commercial applications were arched roof supports for

Sentinel Structures

Typical application of glued laminated timbers in a religious setting. Our Lady of Good Hope Catholic Church, Milwaukee, WI. Herbst, Jacoby & Jacoby Architects.

Sentinel Structures

Gluing form jig for making curved glued laminated arches. Photo taken in 1934 at Thompson Brothers Boat Factory. This forming equipment was a much-improved version of that used in Europe and helped get a foothold for this technology in the United States. Form jig equipment designed and patented by Peter Thompson and Herbert Hanisch.

the Peshtigo High School gymnasium—a building designed by the elder Hanisch. The arches were fabricated from Southern pine lumber and bonded with water-resistant casein adhesive.

Hanisch, an architect and engineer, immigrated to the United States in 1923. In 1906, he had become affiliated with Otto Hetzer of Weimar, Germany, and learned the techniques of glued laminated construction—a technology that Hetzer first patented just after the turn of the century. The product soon became known as the "Hetzer System" or "Hetzer Construction," and it quickly spread throughout much of Europe. Germany, Switzerland, and Sweden were the most eager to embrace the system.

The Forest Service had a cursory interest, at best, in this technique before learning of Hanisch's activities at Peshtigo. In January 1920, the director of FPL received a letter from Assistant Forester H.S. Betts about the use of "System Hetzer" in Switzerland. Over the next year, the two offices, Washington and Madison, exchanged letters and data on glued laminated technology in Europe. The National Advisory Committee for Aeronautics, with Forest Service input, sent an investigator, a Mr. Knight, to Switzerland to study the system. His report (which this writer has not been able to locate) was made secret, Betts said in a January 28, 1921, letter that it was "...absolutely confidential and that they did not want manufacturers in America to learn of it [the Knight report]." After the report had been written and reviewed, for some unknown reason, the Forest Service concluded that glued laminated timber was not worthy of its attention. Thirteen years would pass before the Forest Service would again become interested in the subject, and this interest was due in large part to Hanisch's vision. The 1935 FPL publication *Wood Handbook* mentioned, in passing, that glued laminated arches had been used in Europe since the turn of the 20th century. This was 30 years after glued laminated timber had first been used successfully in Europe and 1 year after it had been introduced to the United States.

Soon after Hanisch began working with glued laminated timber, the FPL learned of his activities and renewed their interest in the subject. A cooperative research and testing program began in the fall of 1934 with Unit Structures, Inc., supplying southern pine arches for a demonstration building that was constructed at the FPL grounds in Madison. The roof was loaded with 31,500 pounds of sandbags (50 percent in excess of design loads) directly over one of the arch spans. A number of additional arches were furnished and were loaded to destruction in the Lab's 1-million-pound testing device. Results from both test schemes were overwhelmingly in favor of glued laminated timber construction. These positive test results provided the ammunition needed to satisfy building authorities, architects, engineers, and other skeptics of the validity of this construction method. FPL's test and research program took several years to be formally presented as a published report with the final result being

USDA Technical Bulletin 691, *The Glued Laminated Wooden Arch,* written by T.R.C. Wilson. Published in October 1939, it was the first authoritative publication on the topic and was the standard for the industry for many years.

From a small and humble beginning, the Hanisches were able to convince more and more architects to incorporate glued laminated timber into their designs. The warmth and beauty of wood, combined with the graceful curves made possible with structural laminating lent itself to a wide audience of architects. Typical applications in the 1930s included school gymnasiums, auditoriums, community halls, dance halls, and churches. In many instances, glued laminated beams were found to be more aesthetically pleasing and less costly than structural steel. The inherent fire resistance of heavy timber became another argument in favor of glued laminated timber.

The buildup for and the American entry into World War II gave great impetus to the laminating industry. Steel was restricted and diverted from building construction to make armaments, ships, tanks, and other war items. Buildings for manufacturing plants and military bases were desperately needed as well. Wood filled the gap left by the steel shortages, and glued laminated timber was a natural alternative. The large, clear spans for factories and drill halls, airplane hangars, and warehouses could be completed quickly and economically with engineered timber. Manufacturing capacity of the product expanded from one firm, Unit Structures, Inc., to several others including Rilco Laminated Products, Inc., of St. Paul, MN; Summerbell Roof Structures of Los Angeles, CA; and Timber Structures, Inc. of Portland, OR. The latter two firms were licensees of the patented Unit Structures' system. Rilco, Summerbell, and Timber Structures also fabricated nonlaminated, solid-sawn timber trusses that were also used in wartime construction. Unit Structures focused its entire energies on glued laminated timber and 100 percent of its output went directly into the defense effort during the war. The War Production Board estimated that the use of timber connector wood construction saved more than 800 million pounds of structural steel in 1942. This did not include the savings realized by the use of glued laminated timber. Wood was, without a doubt, a major contributor to the war's successful outcome. The war also brought glued laminated timber into the forefront as a first-class building material and put it on the road to a bright future.

Sentinel Structures

Church of St. Francis of Assisi, Lake St. Croix Beach, MN, with southern pine glued laminated timber trusses, beams, and decking. Built in 1988. MCI Architects, St. Paul, MN.

The FPL continued to investigate glued laminated timber to better understand its properties and advantages. *Laminating of Structural Wood Products by Gluing* by A.C. Knauss and M.I. Selbo was an important publication from the 1940s. Testing continued during the war with one result being the successful application of white oak glued laminated members for use in ship construction. The introduction of waterproof synthetic adhesives to this young industry during the war made the use of laminated timber possible under severe service conditions. The FPL cooperated with other Government agencies, manufacturers of laminated timber, and adhesive producers to make additional advances.

Research on the design criteria of glued laminated timber resulted in USDA Technical Bulletin 1069, *Fabrication and Design of Glued Laminated Wood Structural Members*, by Freas and Selbo in February 1954. Some of the important names associated with research into structural laminating at the FPL in addition to Wilson, Selbo, and Freas, include I.J. Marwardt, L.V. Teesdale, Fred Warren, and Billy Bohannon.

Ultimately, the manufacturers of glued laminated timber pooled their efforts and in 1952 formed a national technical trade association, the American Institute of Timber Construction. Through cooperative research efforts, FPL personnel played an important role in getting this new group on its way during the 1950s and 1960s.

The first two applications of glued laminated timber built in America, the Peshtigo gym and the FPL building, still stand and continue to be used daily. More than 60 years of success can be traced back to Max Hanisch and Peshtigo, where the tech-

nology had its American beginning. Laminated timber is still being manufactured at Peshtigo, and since 1972 the plant has been known as Sentinel Structures, Inc. Approximately 20 other manufacturers produce glued laminated timber in the United States today, and products have expanded beyond beams and arches for building construction to include bridge timbers, highway sound barriers, electric utility poles, decorative lighting standards, and marine laminates.

From a one-person entrepreneurial endeavor, glued laminated timber grew with the assistance of Government cooperative research. Once a private firm began designing and manufacturing laminated members, the Forest Service grasped the future significance of the system, but only after years of hesitation. In a unique cooperative project, private industry and a governmental institution joined forces to bring about the commercialization of a manufactured product in the 1930s. Cooperative research on the technology by the FLP, the American Institute of Timber Construction, universities, and the private sector continues to be undertaken to this day.

Remembering the Moose Creek Crash of 1979

By Cindy Schacher, Nez Perce National Forest

It was June 11, 1979, a beautiful spring day, bright with sunshine and new hope for a great summer. The clean air, with a hint of pine, is still fresh in my mind. My father, Art Seamans, was the District Ranger on the Moose Creek Ranger District of the Nez Perce National Forest from 1975 to 1980. Our family was fortunate to spend our summers at the remote ranger station. My years at Moose Creek were full of wonderment, learning, and enjoyment of the great outdoors. I will forever cherish the days spent as a teenager riding with my dad in pursuit of heavy jump gear left behind by smokejumpers, clearing trails, visiting lookouts and outfitter camps, or even shoveling horse manure. The lessons learned by this teenager were many. Some were tough, some are hidden in my heart and hard to talk about, but never forgotten. The time spent in the Selway-Bitterroot Wilderness instilled in me a love for the wilderness, animals, and most of all, history.

My mother, sister, and I had flown into the Moose Creek Ranger Station in a Cessna 206 the day before the annual spring orientation. We originally were scheduled to fly in the following day on a DC-3 with the majority of the district crew, but my mom decided she should go in ahead of time and bake a cake for everyone on orientation day. As we settled in for the summer season on June 11, we sat on the wood steps of our wall tent awaiting the arrival of the DC-3 with several employees aboard.

Cindy Schacher

Moose Creek Ranger Station in the Selway-Bitterroot Wilderness, ID.

Spring orientation was a time for all the employees to get acquainted and learn about the jobs they would be doing during the summer. It was a fun time, a time when the Forest Service truly felt like family. Every year a few new recruits joined the returning veterans to try their hand at the grueling work of the backcountry and get to know and experience this wonderfully rugged country. They knew the landscape was gorgeous, but they would also find that the rugged peaks and hot river valleys were unforgiving.

Aviation has been part of the Selway-Bitterroot Wilderness since 1932 when the first airstrip was completed at Moose Creek—a time when backcountry flying was in its infancy. It is hard now to visualize the thickly vegetated and timbered flat that is now an open grassy airstrip. Clearing the strip was difficult and it took many hours of human muscle and mule power to accomplish the job. Access to the remote area is now quicker and less difficult, allowing more rapid movement of people and supplies for fire suppression and other administrative work. In 1959, the second, longer airstrip was constructed allowing larger more sophisticated equipment to fly in to the backcountry ranger station.

We were anxiously awaiting the arrival of the DC-3 when we got word that something was wrong. Grangeville dispatch had lost contact with the plane. Everyone was shocked and felt helpless. It had gone down and we didn't know any more than that. A fixed-wing search craft was quickly dispatched from Grangeville and a helicopter started up river from Fenn.

Cindy Schecher

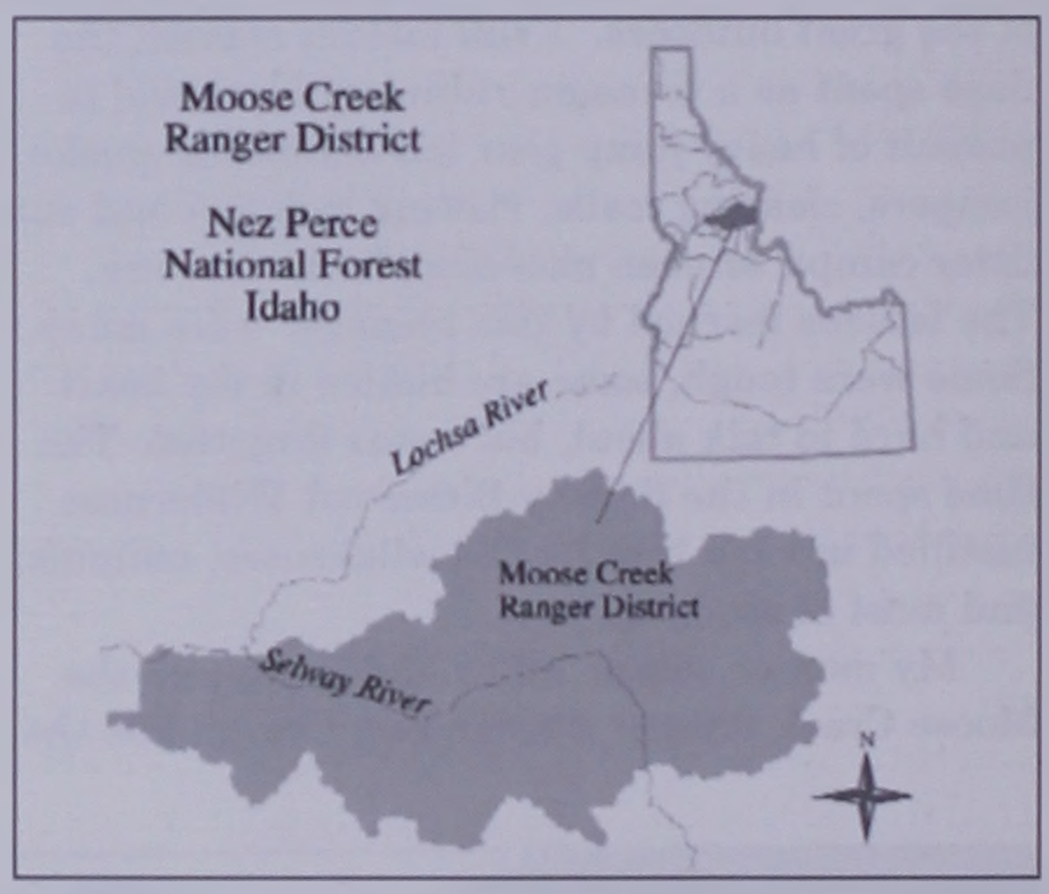
Airstrip at Moose Creek Ranger Station, Selway-Bitterroot Wilderness, Nez Perce National Forest, ID.

Within a few minutes our worst fears were confirmed: the DC-3 was down in the Selway River. Several employees headed for the crash area to help in any way they could. Smokejumpers from Missoula were also on the way. The next few moments and hours were a blur. The one vision that has stuck clearly in my mind was that of a young man riding up to us on a white horse. The horse was my Dad's, Trigger, and the young man was Bryant Stringham, who had been on the DC-3! He had escaped relatively unscathed, one of two passengers who survived to tell of their experience. A third survivor, Bryant's beagle, also managed to escape serious injury.

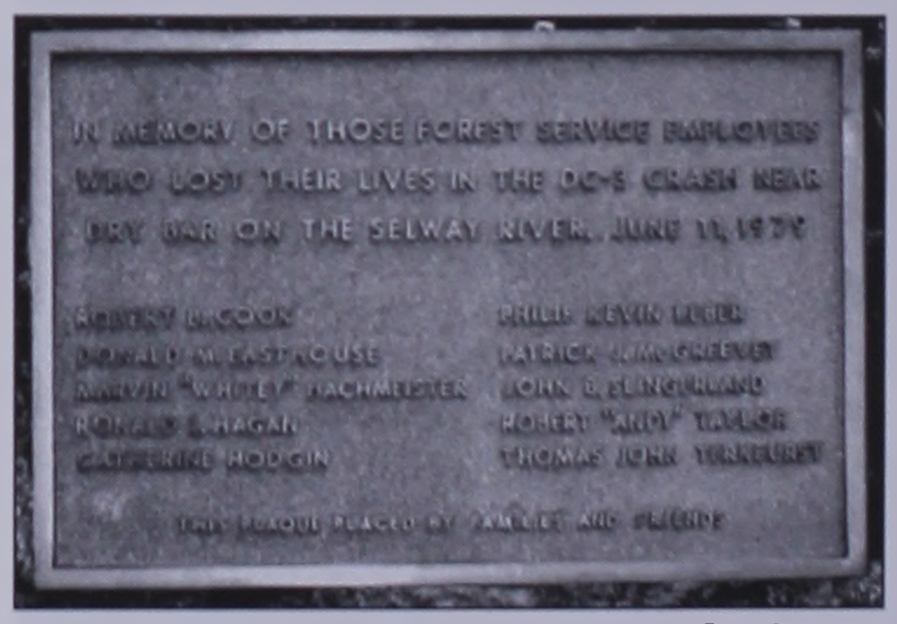
We learned much later that an engine had overheated, causing the pilots to shut it down, then the other engine blew a piston, starting a fire and causing the propeller to seize, which twisted the engine from the plane's wing. The pilots did their best to land the powerless, unbalanced aircraft in the river at Dry Bar, the only straight and quiet stretch of the plunging Selway River, but fell a few feet short. After the investigation had been completed, it was discovered that the engines had failed due to maintenance errors.

On that sunny spring day, June 11, 1979, 10 people lost their lives in one of Earth's most magnificent places, the Selway-Bitterroot Wilderness. They were on their way to a few months of adventure and hard work, dedicated to the management and preservation of that rugged land. The aircraft they were in had a tremendous safety record and the pilots were among the elite flying the backcountry. That there were two survivors, Bryant Stringham and Charles Dietz, is testimony to the skills of pilot Marvin (Whitey) Hachmeister and co-pilot John Slingerland, both of whom lost their lives in the crash. Three of the passenger victims were career employees: Engineer Ronald Hagan, Engineer Robert Taylor, and Moose Creek Resource Assistant Donald Easthouse. Patrick McGreevey, Philip Leber, Catherine Hodgin, and Robert Cook were seasonal employees. Thomas Terkeurst was volunteering for the summer. Ten died, but their loss reverberated across the country—touching the lives of hundreds.

More than 20 years have passed, but those who lost their lives in the line of duty that tragic day in 1979 will not be forgotten. Please take a moment to honor these fine people, forever members of our Forest Service family. Friends and family members have placed a plaque at the Moose Creek Ranger Station and award an annual scholarship to a student in the University of Idaho's Wildlands Management Program to commemorate their lives.



Vicinity map of the Moose Creek Ranger District and crash site.


IN MEMORY OF THOSE FOREST SERVICE EMPLOYEES
WHO LOST THEIR LIVES IN THE DC-3 CRASH NEAR
DRY BAR ON THE SELWAY RIVER, JUNE 11, 1979

Steve Armstrong

Memorial plaque at the Moose Creek Ranger Station commemorating the Moose Creek crash of 1979.

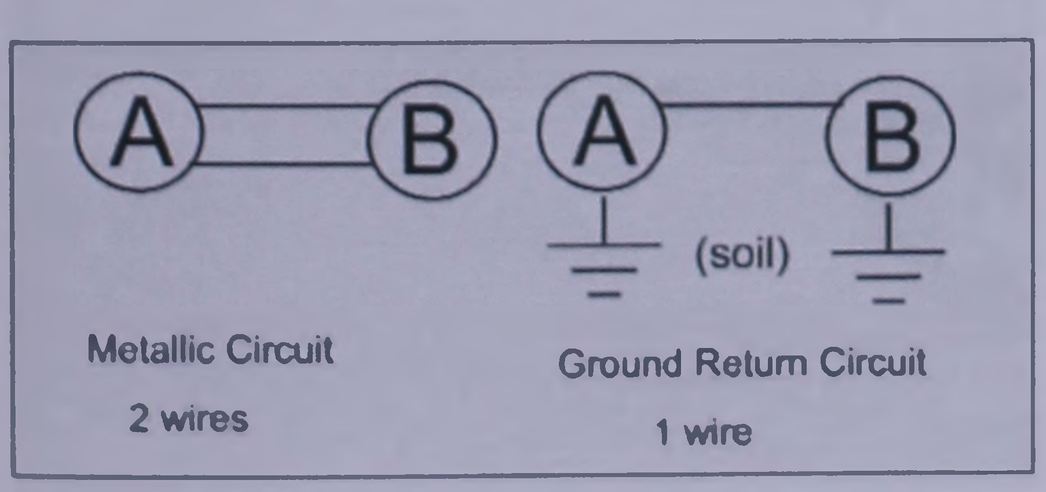
Ground Return Telephones—Down-to-Earth Practicality

By Ed Heilman

The very early Forest Service has been noted for many admirable qualities, but one quality that may be less obvious to today's reader was a continuing, widespread, and often successful quest for simple, practical solutions for the problems of the day.

One example of this quest for a practical solution to a sizable problem was the development and later installation of ground return telephone systems. (Other examples that might be given are the 1914 surveyor's location poster; the "saddlebag office"—a looseleaf, pocketsized series of forms, volume tables, and so on, that fit in a sturdy, leather binder cover; and the 1915 servicewide standardization of locks.)

Shortly after being established in 1905, the Forest Service decided it needed much better telephone communication than then existed. This need became dramatically more evident following the disastrous 1910 fires in the Northern Rockies. The need was both urgent and massive. Construction of many miles of telephone lines was both a financial and technical challenge. The development and use of ground return systems greatly reduced costs and thereby allowed much more mileage to be covered with a given budget. A ground return system, in its simplest terms, requires using only one telephone wire instead of the usual two, and using the earth as the other conductor for the flow of electrical current necessary to complete the electrical circuit.



A and B can be up to many miles apart. In both the metallic and ground circuits, electrical current must flow completely around the entire circuit for the telegraph and telephone at each end to work properly.

In the example, A and B can be up to many miles apart. In both the metallic and ground return circuits, electrical current must flow completely around the entire circuit, from A to B to A, for example, for the telegraph or telephone at each end to work properly.

Although such a system may sound simple, it wasn't simple at all. The following quick overview illustrates why the system was difficult and why the early Forest Service efforts at using a telephone system to communicate between lookouts and the ranger district had such a great payoff.

Although there were earlier efforts, we'll start our story in 1747 in England, where Sir William Watson, an early electrical experimenter, first demonstrated the principles of ground return in his attempts to develop what later became known as the telegraph. Others carried this idea onward in further developments.

In 1828, Harrison Gray Dyer installed an experimental 8-mile-long ground return telegraph system on Long Island, NY. Following this, other inventors developed other improvements. In 1837, Samuel F.B. Morse developed a practical instrument and later developed what became known as the Morse code, a series of dots and dashes indicating letters and numbers, which became the international standard.

In 1838, Morse first publicly demonstrated his telegraphy system in Morristown, NJ. Beginning in about 1845, commercial telegraph use began in the United States. Much, but not all, of this early use was ground return telegraphy. Metallic circuits were also in use, most commonly in urban areas.

During the Civil War (1861–65), telegraphy was the principal means of communication over long distances. Many improvements in telegraphy instruments, circuit design, and line construction occurred.

In 1866, the first permanently successful trans-Atlantic telegraph cable was laid. At this time, telephones had not yet become a practical reality. Although the electrical theory that later became the basis for voice transmission was

derived about 1837, hardware at the time was not capable of turning the theory into practice. Inventors kept working on the theory, however, including a gifted man named Alexander Graham Bell.

Bell had the basic theory of his telephone idea worked out by 1874, but it wasn't until March 1876 that he transmitted his historic message to his assistant Watson in the adjacent room. Bell received his first U.S. patent for a telephone in March 1876. The early telephone instruments did not perform well. Problems included noise, speech distortion, and low volume.

In spite of these problems, the radical new idea of what became known as the telephone swept the United States as part of the enormous burst of national energy and industrialization that followed the Civil War. In 1881, the first public long distance telephone line was built between Boston and Providence, RI—about 45 miles. Since the emerging telephone industry continued to follow the long-established practices of the earlier telegraph systems, this first long distance telephone line was ground return.

Mainly because of the crudity of the early telephone instruments, this first long distance ground return line produced so much noise and interference from nearby telegraph lines that it proved unusable for telephone purposes. From this and other unsuccessful early attempts at using ground return, the telephone industry began building and using mostly metallic (two-wire) circuits. The first long distance open wire metallic circuit between Boston and New York City was built in 1885.

By the turn of the 20th century, most big U.S. cities had massive overhead wire systems on closely spaced crossarms on pole lines. Because the telephone and telegraph wires were closely spaced, "crosstalk" and other noises were common.

By 1905, when the Forest Service was established, everyone in the telephone business knew with absolute certainty that the only successful telephone circuits were metallic (two-wire) circuits; ground return had been tried and disproved. Case closed. How then did the Forest Service fly in the face of conventional wisdom and build most of its far-flung system as ground return?

The early Forest Service "borrowed" its technical phone line construction expertise from the American Telephone and Telegraph Co. (AT&T) and published the then-existing AT&T construction specifications as Forest Service directives. Adopting these specifications was usually the most expeditious means of completing lines that eventually tied in with AT&T circuits.

Fortunately for succeeding generations, given the very sizable phone line construction challenge facing the Forest Service, some perceptive individuals within the early Forest Service thought it might be worthwhile to revisit the ground return issue. If ground return could be made usable, it would greatly reduce the cost of installing a very large system in remote areas.

Some time after 1905 and probably before 1915, the Forest Service assigned a Dr. H. Barringer Cox the problem of developing a workable ground return phone system, which he did on the Santa Barbara (now Los Padres) National Forest in southern California.

How did Dr. Cox make ground return workable when the entire U.S. telephone industry had already tried ground return and found it unsuitable? Although specific documentation is not available, the following factors may help explain Cox's success:

- Dr. Cox did his work in a forested area, where noise from other telephone, telegraph, and power lines was not a significant factor, as it had been in urban areas where the earlier phone lines had been installed.
- Since the time when the earliest phone systems had been installed, some 20 years earlier, many improvements had been made in telephone instruments and phone line design. These improvements permitted satisfactory phone service under conditions that may not have worked earlier.

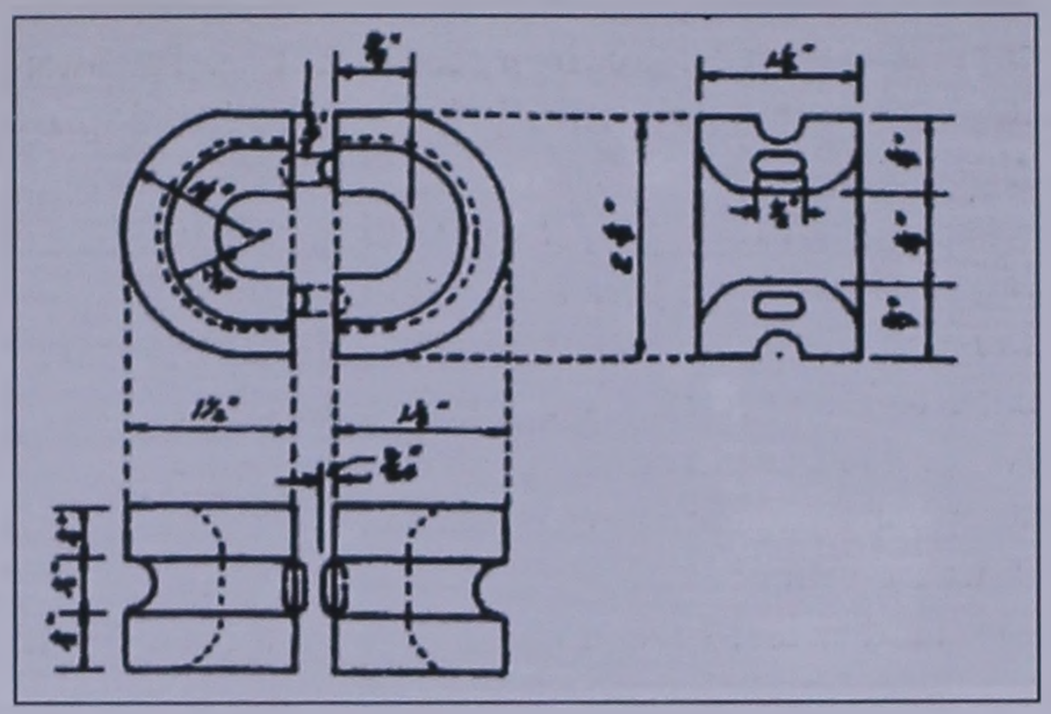
By this time, however, the mainstream U.S. phone industry was already heavily committed to metallic (two-wire) systems, and organizational inertia may have discouraged revisiting the already-discarded ground return system.

USDA Forest Service

Ranger carrying telephone equipment and wire by packhorse along a trail on the Snoqualmie National Forest, WA, 1911.

The early Forest Service had no such baggage at that time, and new ideas were welcomed. Cox's work is one of many examples of innovation that occurred in the early Forest Service.

Using Cox's work as an example, the Forest Service began installing what would become thousands of miles of ground return phone lines. Most of the lines were hung on trees, although poles were also used where trees were not readily available. Early phone lines often followed existing roads and trails, although cross-country routing also followed ridges, creeks, or other logical routes.



Early Forest Service Handbook

Schematic of a plan for the split-ring tree insulator.

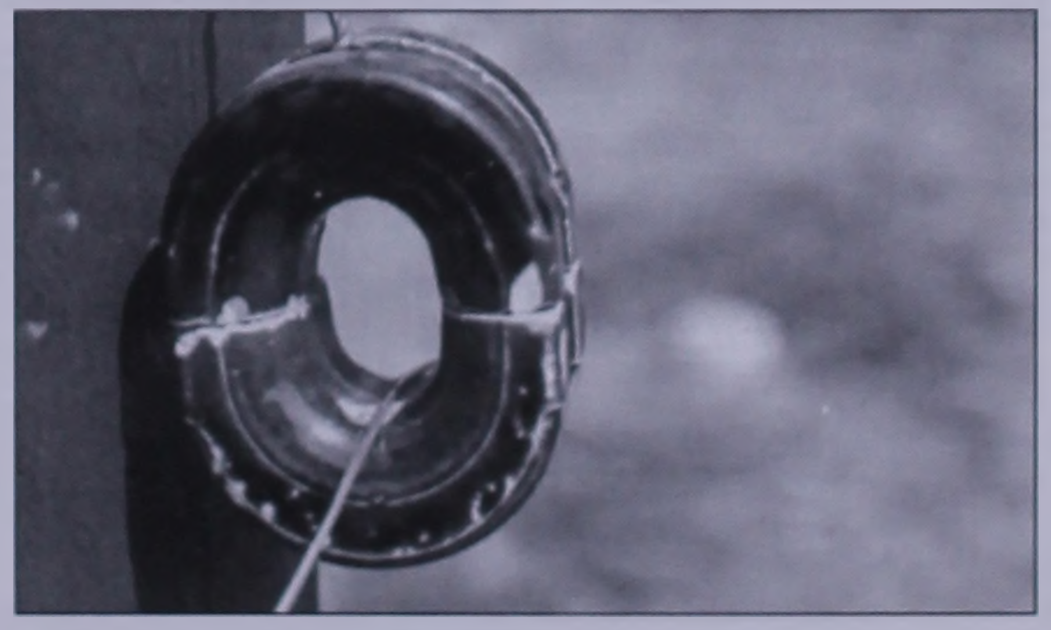
USDA Forest Service

A ranger hanging telephone insulators on a dead tree, Olympic National Forest, WA, April 1921.

The common practice of hanging phone lines on trees inspired the development of hardware that would accommodate this use. The early insulators were taken from then-existing telephone practice, and these early insulators were usually solid white porcelain, either in a circular or oval shaped "doughnut." The single phone wire, commonly #9 galvanized wire, was threaded through the "hole in the doughnut" and the insulator was then suspended by a short tie wire from a staple driven into the tree. This threading process proved cumbersome, and an innovative Northern Region Clearwater National Forest district ranger named William Daughs invented the split-ring tree insulator. He whittled the first model from Douglas-fir tree bark, demonstrating the principle of two insulator halves that could be wired together to form a circular or oval shaped "doughnut" around the telephone wire at any point along the line. This split-ring concept was quickly adopted by commercial insulator manufacturers, and the resulting ability to install insulators anywhere along the line greatly facilitated the ongoing construction (and the ensuing maintenance) of telephone lines.

The early split rings were both circular and oval-shaped, but field experience soon demonstrated that the somewhat smaller circular rings could rotate within their external wire loop harness and allow the phone wire to rub into the joint between the two insulator halves, resulting in cracked or broken insulators. This, in turn, led to much more use of the heavier oval-shaped split rings, which caused the phone wire to reside in the solid end of the oval instead of in the vulnerable center joint.

The early split rings were white porcelain, which proved to be a tempting target for would-be marksmen. Switching to dark brown porcelain reduced the sharpshooter vandalism. By the mid-1930s, during the boom in Civilian Conservation Corps (CCC) phone line construction, most of the readily visible white split rings had been replaced by the brown version.



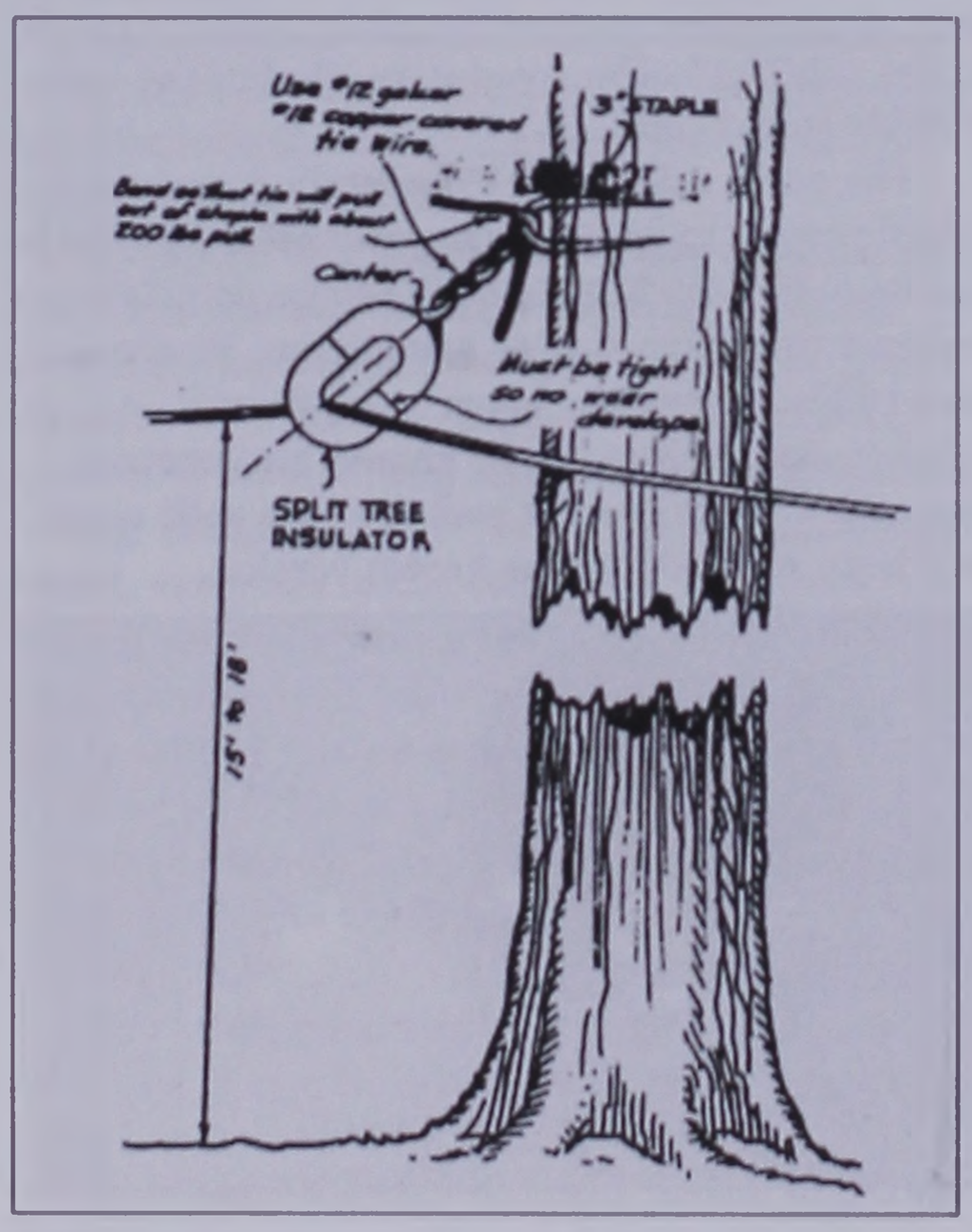
James Lyon

Side view of a brown split-ring insulator used with early ground return telephone wires.

James Lyon

Front view of a brown split-ring insulator used with early ground return telephone wires.

By design, the tree-hung single wires had a relatively large amount of slack so that if a tree were to fall across the line, it would pull the wire down below the falling tree instead of breaking the line. Likewise, split-ring insulators were hung from staples in the line tree in a manner that allowed the insulator tie wire to pull loose from the staple instead of causing a wire to break. Often these ground return lines could still "talk" under many fallen trees, snowbanks, and other obstacles because of this built-in, break-resistant slack. Maintenance costs were reduced accordingly.



Early Forest Service Handbook

Schematics of how insulators were attached to trees.

USDA Forest Service

Wooden bracket for Forest Service field telephone lines, designed by Clay M. Allen, Pacific Northwest District (now Region) telephone engineer, to hold the wire away from the trees and prevent leakage of current, which would be extensive in the wet weather so common on the west side of the Cascade Mountains in that region (1921 photo).

Other telephone hardware evolved as more and more lines were built. One of these interesting devices was a sort of "black box," commonly known as a repeat coil, which permitted the linking of a single-wire ground return line with the two-wire metallic circuit. It was almost certainly developed by the telephone industry, not the Forest Service, but it was widely used by the Forest Service. It is actually a small transformer that uses inductive coupling to transfer signals from one circuit to another without a direct electrical connection between the two circuits.

Other hardware provided at least some protection against lightning strikes, although it was said that cranking the phone or picking up the receiver to talk to the ranger during an electrical storm was about as hazardous as reaching for a rattlesnake in a gunny sack.

The often arid setting of lookouts located on high rocky peaks presented real challenges for obtaining and maintaining a good electrical ground, one of the requirements for satisfactory operation of a ground return system. In such locations it was not a simple matter of tying onto a water pipe—there were no water pipes, or no water for that matter. Frequently, it became necessary to run one or more #9 lines down the hill to a moist spot to obtain a ground. On occasion, the pit of a pit toilet provided just such a ground.

When field crews wanted to use a portable phone to check in, they also faced the grounding problem. The overhead phone wire could be pulled down to ground level by a rope, but the necessary electrical ground was more complicated, particularly on dry soil. One approach that often worked was finding a healthy tree, sinking an ax blade as far as possible into the lower tree trunk, and clipping a spring clamp onto the ax blade. At other times, surplus World War I bayonets were inserted directly into the soil.

USDA Forest Service, History Section

Portable telephone handset and "howler" signaling device. The handset, first perfected about 1914, was clipped onto telephone wires for use. The howler emitted a loud noise to get the attention of work crews in the vicinity of the telephone.

Although ground return was economical and much simpler to build and maintain than metallic circuits, it did have its problems. One was a relatively high noise level caused mainly by increased electrical resistance. Resistance could increase when someone lifted a receiver (listening in on someone else's conversation, a common practice on multiple party lines), or when daytime temperatures increased along the phone line. It was not unusual to be able to converse with a distant party in the cool of the morning, and not be able to after a hot day's heating of the phone line, because noise would drown out any conversation until the line cooled off during the night. Noise could also result from the arcing that occurred across the carbon blocks on lightning arrestors.

Some readers may recognize the sometimes close parallels between military and Forest Service communications systems. Each has used ideas and hardware developed by the other. During the early 1900s when Dr. Cox was developing ground return systems for the Forest Service, the U.S. Army was also experimenting with ground return phone systems. During World War I, the U.S. Army used its systems somewhat. After World War I and II (wires were not available during the wars), the Forest Service used U.S. military emergency wires for temporary phone installations, such as to and from fire camps. By the time of the Korean War in 1950, the military considered ground return unsatisfactory for voice communication and it had all but disappeared from military use.

USDA Forest Service

A ranger stringing telephone wire and setting poles on the Big Horn Forest Reserve, northern Wyoming, August 1906, for the first Forest Service telephone line, 109 miles long.

Forest Service phone line construction began in 1906 on the Big Horn Forest Reserve in Wyoming and probably reached its peak at the end of the CCC program in 1942. During World War II, small portable radios were greatly improved, and following World War II, the Forest Service began a widespread program of removing most of its thousands of miles of telephone lines. Although servicewide totals are not available, by 1948 the Northern Region alone had 12,650 miles of phone lines. As of the end of the CCC era, probably at least two-thirds of the servicewide system was ground return.

Even today, scattered remnants of this once widespread system can be seen along trails or even some forest roads. Such relics evoke thoughts of the eminent practicality and truly remarkable effort it took to get this system in place—a "primitive" system that provided greatly improved communications in the national forests.

Forest Lodge 1999

By Kim Potaracke, Archaeological Technician/Passport in Time Coordinator, Chequamegon-Nicolet National Forest

The Forest Service recently acquired an 870-acre tract of forested land that lies along the shores of Lake Namekagon in northern Wisconsin from the Livingston family, originally headed by the patriarch Crawford Livingston and his wife Mary, whose main residence during the period of significance was St. Paul, MN. Mrs. Mary Griggs Burke, the Livingston's granddaughter, comes from a line of nature and art lovers who came to northern Wisconsin initially to hunt, fish, and carouse with the boys at their "hunting shack." She wanted to make sure that this property, this history, and these buildings didn't become lost in the rush for land and development after she was gone. Through the Trust for Public Lands Burke sold the property to the Forest Service and also set aside a large sum of money in trust to be used for its care and upkeep. The complex of buildings grew into what is today referred to as "Forest Lodge," an Adirondack-style camp that includes a dozen finely crafted log and stone buildings set in a remarkably beautiful historic landscape. The Livingston-Griggs-Burke family used the property originally for a men's getaway, but it soon turned into a family summer vacation haven. It was equipped in the 1930s with a small dairy, ice house, and gardens.

Kim Potaracke

Forest Lodge, guest house, Lake Namekagon, WI.

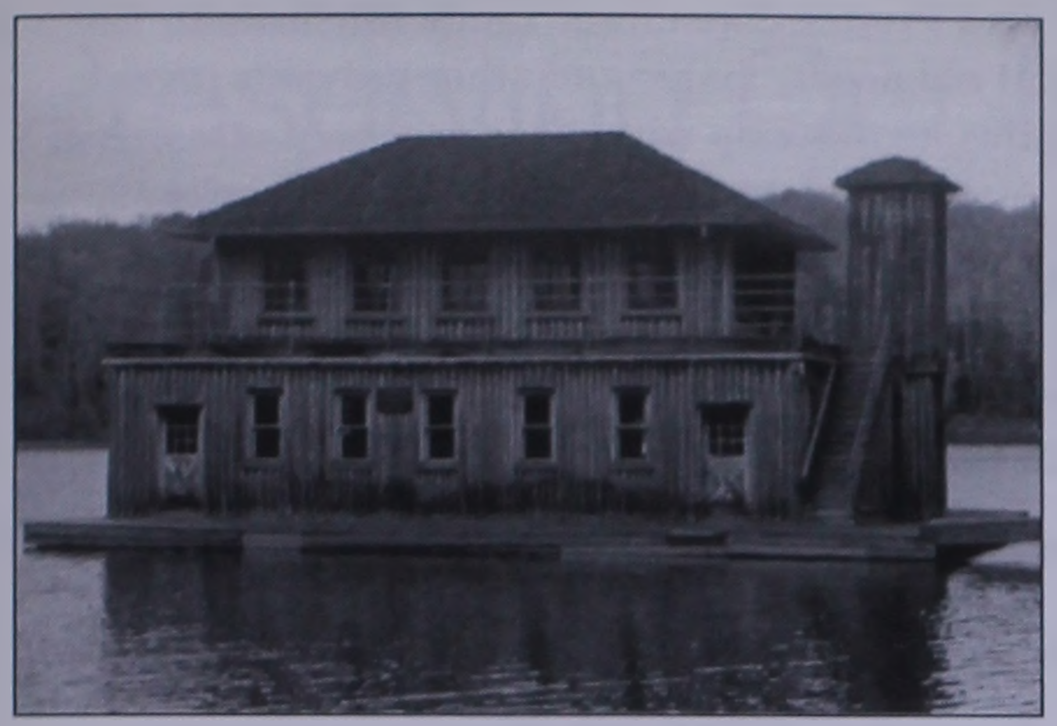
The property was originally a logging camp site in the late 1800s. In the 1890s, Crawford Livingston, a gentleman from New York City and Minneapolis, purchased the land from the logging company that had finished logging the huge white pine that had once blanketed the area. He wanted to build a hunting camp and lodge on the site. About 12 log buildings were built between the 1890s and the 1920s, including the main lodge, maids' quarters, guest house, boat house, playhouse, generator building, ice house, shed, and cow palace (which housed a small dairy and an attached apartment), as well as a caretaker's cabin with garage, tennis court and courtside shelter, and greenhouse.

Kim Potaracke

Forest Lodge, main lodge, Lake Namekagon, WI.

Kim Potaracke

The Forest Lodge cow palace housed a small dairy, the cows, and the caretaker's apartment.



Brian Anderson

Forest Lodge, boat house, on Lake Namekagon.

Through the years, Burke and her family had been attentive to maintenance and repair, and the property retained considerable architectural and historical character. At the time the Forest Service acquired the property, however, a building that once served as an ice house was in immediate need of repair. Specifically, the roof system and sections of the ice house's log walls had deteriorated.

Kim Potaracke

Forest Lodge ice house "before." Notice the tree seedlings and shrubs growing on and out of the roof.

Kim Potaracke

Ice house "after," showing new roof and new logs.

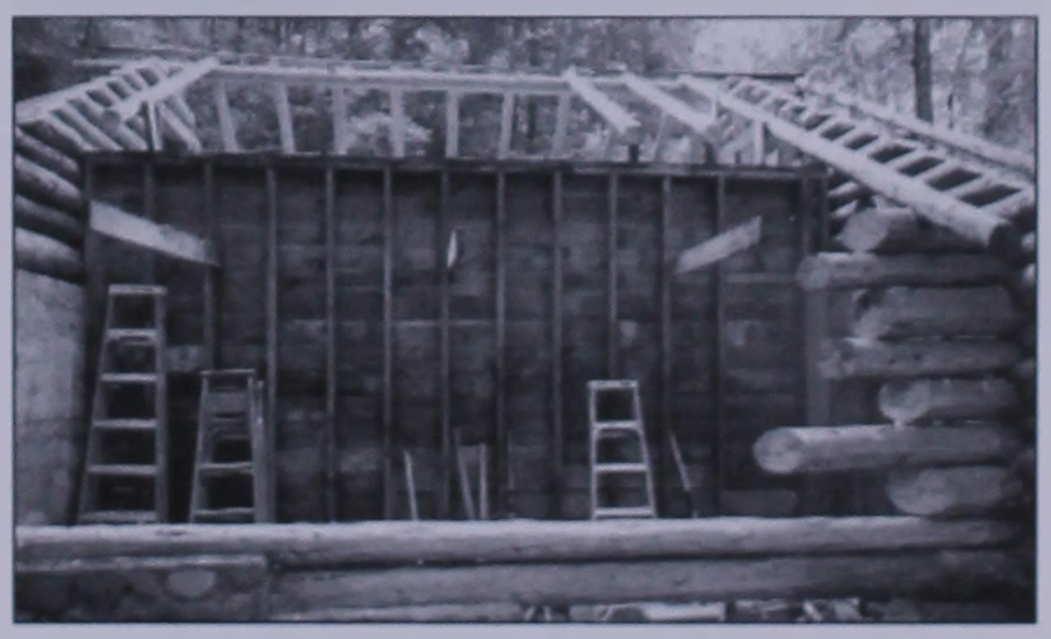
During the summer of 1999, a few archaeologists and a handful of volunteers and students met the challenge of repairing the ice house, while also examining the 2 miles of shoreline on Lake Namekagon.

For 2 weeks one group of Passport in Time (PIT) volunteers and students from Nicolet College shovel-tested along the shoreline of this big beautiful lake, while the other group of PIT volunteers spent the same 2 weeks dismantling the ice house and replacing the rotten logs and cedar shake roof. This project occurred during one of the hottest and muggiest summers on the lake, but everyone was diligent about continuing to work.

A team of five to six volunteers, a Forest Service engineer, the assistant district ranger, and two log-building and restoration experts carefully and laboriously took on the ice house. The Trust for Public Lands, through the Forest Lodge Trust Fund, provided funding for materials and for hiring log-building experts. A larger portion of the structure was found to be more deteriorated than previously thought.

Kim Potaracke

The ice house in process with roof and rotten logs removed.



Kim Potaracke

As often happens, more rotten logs were found on the front side of the ice house than were originally estimated. Consequently, the project needed to order more replacement logs.

Brian Anderson

Forest Lodge Ice House. Passport In Time volunteers work with professional log home builders (only the pros used the chainsaws) to replace rotten roof purlins. Safety is always first on Forest Service projects.

Brian Anderson

Forest Lodge ice house. Professional log home builder uses a chainsaw to create a notch for new log roof purlin.

Brian Anderson

Passport In Time volunteers help replace rotten logs on the ice house with new logs.

At the same time, two volunteers were researching the Forest Lodge property and the surrounding area at the History Center and Archives in Ashland, WI. They worked with the State Historical Society of Wisconsin Archivist and Project Consultant Linda Mittlestadt, looking at old deeds, maps, and other previous inventories, to come up with more precisely researched historical data. Jeff Cate, a Forest Service employee and professional photographer, took before, during, and after photos of the project.

"For me it was a very rewarding experience. It was physical work, I learned something, I watched the team dynamics, and I met some interesting people. A group of strangers came together with a big goal and little else. Standing shoulder-to-shoulder fitting a log back into place lets you learn something about your work partner. To watch craftsmen apply their art and to learn from them was enjoyable."

–Bruce Paulsen, Partipant
10/1/1999

The Forest Lodge project surpassed the team's expectations; the archival researchers identified two new historical sites. One was the Northern Wisconsin Lumber Company camp that was on the future Forest Lodge property around 1894, and the other a summer home or homes, located on Champagne Island in Lake Namekagon and constructed sometime after 1890. The home consisted of a living room, porch, bedrooms, a dining room, and kitchen, and the site included an ice house, a boat house, and a ramp. A large dock—the stones of which can still be seen below the water—projected out from the island's south side. Today, they are nothing more than earthen foundations. This island, only 6–7 acres in size, may also yield information about American Indian sites before this time and awaits future research strategies.

Forest Lodge will be the focus of continuing historic preservation activities through the coming years. In conveying ownership to the Forest Service in 1999, Burke required assurances that the property's historic and ecological values would be preserved. In accordance with those wishes, as mediated through the Trust for Public Lands, the Forest Service agreed that land management activities such as recreational development and commercial timber harvesting would never take place within the property, and that the architectural integrity of the buildings and associated historic landscape would be maintained. Someday soon the public will be able to visit this site and experience the beauty and history it represents.

To be included on the mailing list, to become a volunteer or to receive the *PIT Traveler*, the newsletter that outlines all PIT projects across the Nation, please contact the PIT clearinghouse at 800–281–9176 or PIT@sricrm.com.

Preserving Our Legacy: Historic Forest Service Buildings on the Rogue River National Forest

By Jeff LaLande, Archaeologist, Rogue River National Forest

With completion of a "multiple-property" nomination in 2000, southwestern Oregon's Rogue River National Forest now has nearly 50 different Forest Service structures listed on the National Register of Historic Places (NRHP).

The Rogue River has had the good fortune to retain a wide variety of early-day Forest Service structures. These range from the old Star Gulch "tack room," one of the oldest (1911) continuously used Forest Service buildings in the Nation, to six rustic campground shelters (among the largest number of such structures located on a single national forest) built by the Civilian Conservation Corps (CCC). Many of these historic buildings have weathered the years in fairly good condition, thanks to ongoing use (as well as the efforts of maintenance crews and district "champions"). Others have survived into the 21st century, but not in the best of shape.

An important ongoing task for the Rogue River Forest has been, of course, to consider each structure's historic context and to evaluate its historical significance. Although this legally mandated effort does not, in and of itself, guarantee any building's preservation, it has helped line officers recognize the variety and importance of the forest's architectural legacy, and that translates into management priorities. This 20-year ongoing inventory and evaluation job has resulted in several separate nominations of the forest's buildings to the NRHP.

In 1981, a group of CCC-era buildings were included in the NRHP nomination of the Prospect Ranger District's Union Creek Historic District (Throop 1981). In 1984 and subsequently, several widely scattered CCC-built administrative structures (supervisor's office warehouse complex, ranger station compounds, guard stations) dating between 1935 and 1940 were formally added to the Register (Throop 1984). And in 2000, 14 more early-day Forest Service buildings were placed on the NRHP as part of a multiple-property nomination (Atwood 1999). Thus, as of the year 2000, a total of more than 45 of the Rogue River's Forest Service buildings were formally listed on the National Register. (In addition, three Forest Service structures within the California portion of the forest are formally determined eligible to the NRHP.) This number accounts for virtually all of the forest's existing pre-1950 Forest Service structures that retain sufficient physical integrity and importance to meet the eligibility criteria of the NRHP; we do not foresee this total increasing in the future. (The Rogue River National Forest also possesses the remnants of many other old Forest Service buildings, but none of these possess sufficient physical integrity to be eligible for the National Register.)

The Rogue River's recent multiple-property nomination (prepared under contract by consulting historian Kay Atwood) includes 14 separate buildings (as well as several associated out-buildings). The multiple-property approach to the NRHP nomination process was efficient and streamlined. Atwood capitalized on extensive research, physical descriptions, and field evaluations already done by the forest's archeologist for most of the structures. This existing information (the result of "Section 106 compliance reports" prepared over the past two decades) was compiled and then incorporated into the final nomination form, making for a cost-effective contract that was completed in a short time.

The 14 nominated properties, all of which relate to the overall theme of early national forest/Forest Service history in the Pacific Northwest, include general administrative buildings (the 1911 frame-structure tack room at Star Ranger Station, the 1924 log cabin guard station at Willow Prairie, and the 1929 log cabin Big Elk Guard Station) and fire lookouts (the 1925 D-6

cupola-style Hershberger Peak Lookout, the 1927 cupola-style Dutchman Peak Lookout, the 1937 L-4 Mt. Stella Lookout, and the 1944 L-4 Squaw Peak Lookout). Other properties are snow-survey cabins built by the Soil Conservation Service and used by Forest Service snow surveyors for many years (the 1937 log cabin at Whaleback Mountain and the 1943 log cabin at Honeymoon Creek), as well as five rustic Depression-era campground shelters (ranging from the forest's last remaining shake-over-pole "Adirondack-style" shelter to large, elaborate "community kitchens") built between 1935 and 1938 (Fish Lake Shelter, Dead Indian Soda Springs Shelter, Wrangle Shelter, McKee Shelter, and Parker Meadows Shelter).

Simply placing worthy structures on the National Register can be an empty gesture unless concrete steps are taken to ensure their repair, rehabilitation, and long-term preservation. Follow-through has presented an ongoing challenge for the forest. As on other National Forest System units, lack of sufficient funding for preserving historic buildings has been a long-standing problem, and it continues to constrain just what we can accomplish. The forest has attempted to meet the challenge, however, in a number of ways during recent years.

In the early 1990s, the Rogue River National Forest used cultural resource capital investment program funds (unfortunately, this was a short-lived program that soon became a "thing of the past" itself) and both contractors and Forest Service employees to restore the 1911 tack-room cabin. In 1994–95, a small crew of dedicated Forest Service carpenters under the supervision of Jim Spranger replaced the badly rotted sill logs and purlins of the Willow Prairie Cabin, and a troop of Boy Scouts re-shaked the cabin's roof. In 1999, Rick Taylor, the forest's horse-packer (and a former construction contractor and Seabee), finished a similar, but even more challenging, sill-log replacement at the Honeymoon Creek Cabin. Hershberger Peak Lookout underwent major restoration in 1993–94 by an all-volunteer crew composed largely of forest employees. The summer of 1999 saw a similar restoration project at venerable Dutchman Peak Lookout, with the work led by specialists from the Forest Service's Intermountain Region Historic Structures Team (the group that has been featured on the "This Old House" television program). From 1997 through 1999, small teams of Elderhostel Program volunteers helped repair and stabilize Union Creek Shelter, Hershberger Peak Lookout, McKee Shelter, and Squaw Peak Lookout. Self-motivated Ranger District champions such as Rick Aubin, Bob Avritt, Neil Benson, Chuck Coleman, Dave Knutson, Steve Johnson, John McKelligott, Mike Ricketts, Les Robertson, Dave Treskin, and Jeanette Williams have also contributed their skills, time, and sweat to help restore particular buildings. And through the personal initiative of several of the forest's experienced facilities staff (Bryce Leppek, to name just one) over the entire decade, the forest has succeeded in rehabilitating Fish Lake Shelter, Big Elk Guard Station, and several others.

A great deal of work remains to be done. And much of it will require larger financial commitments than can met through volunteer efforts and "challenge grant" programs. The Rogue River is just one of many national forests that is responding to recent Washington Office directives to identify and "cost" all Forest Service facilities for "deferred maintenance." The forest's historic buildings comprise a comparatively small but important portion of this overall facilities inventory. With the 100th anniversary of the agency fast approaching, the Rogue River is doubtless not alone in its hope that this nationwide deferred-maintenance inventory effort may translate into increased funding for preserving our national legacy of historic Forest Service buildings.

Literature Cited

Atwood, Kay. 1999. "Multiple-Property National Register Nomination, Early Forest Service Structures on the Rogue River National Forest, 1911–1944." Rogue River National Forest, Medford, OR.

Throop, Gail. 1981. "National Register Nomination, Union Creek Historic District, Jackson County, Oregon." USDA Forest Service, Pacific Northwest Region, Portland, OR.

Throop, Gail. 1984. "Thematic, Multiple-Property National Register Nomination, Depression-Era/CCC-built Forest Service Administrative Structures in Oregon and Washington." USDA Forest Service, Pacific Northwest Region, Portland, OR.

Forest Service Living History

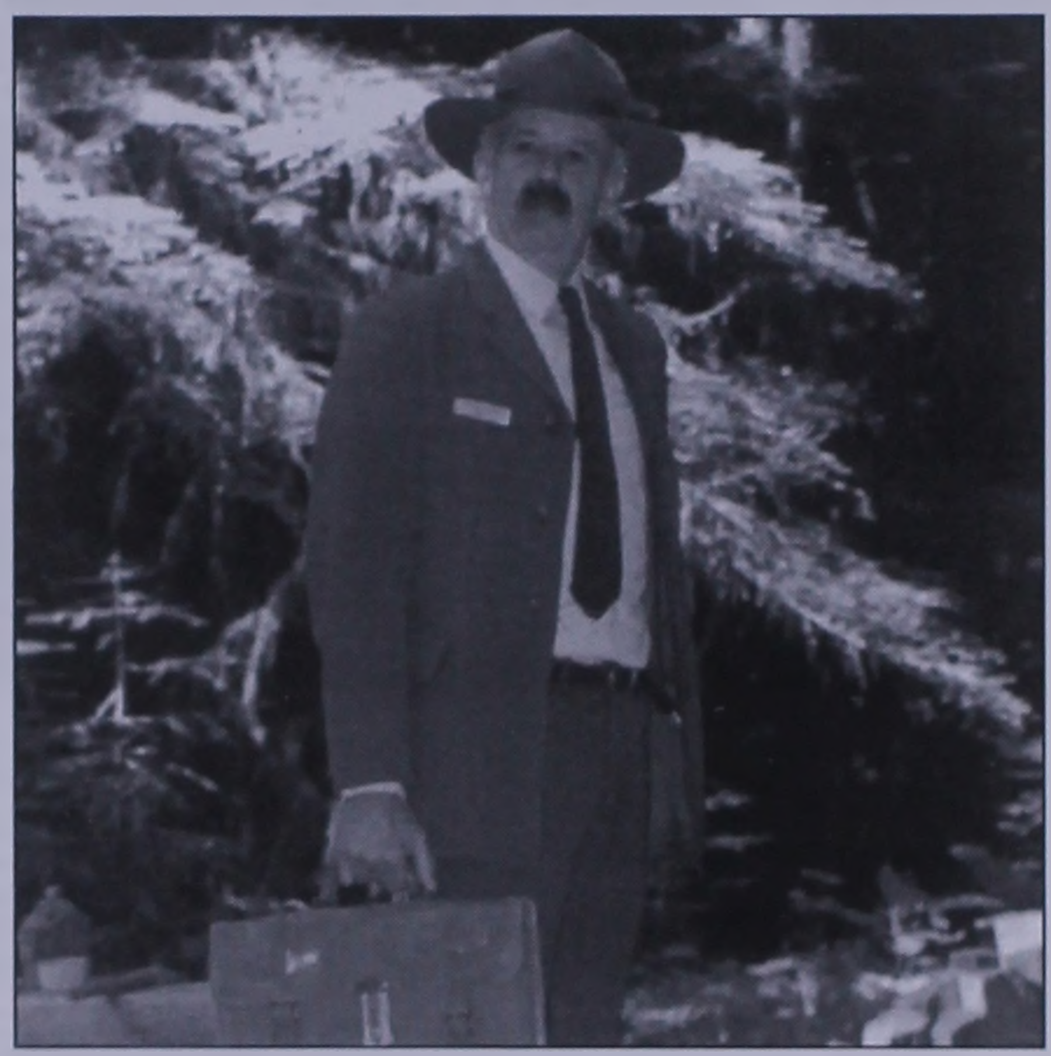
By Steve Coady, Willamette National Forest

Living History—What does that conjure up in your mind? Someone from the past coming to life—as in the National Park Service's village of Colonial Williamsburg on the East Coast, or Fort Clatsop in the Pacific Northwest? You might even think of the Bureau of Land Management's Oregon Trail Interpretive Center at Baker City, OR. Or perhaps a summer campfire program with the Forest Service and the possible meeting of an authentic 1920s forest ranger, while you're visiting western Oregon!

Although the Forest Service does not have an "official" living history program, a few Forest Service employees venture out on their own time to present both Forest Service employees and the general public with an "up close and personal" view of the early Forest Service. Their audiences listen to President Theodore Roosevelt explain why conservation of natural resources is so important, or hear Gifford Pinchot as he speaks on the importance of accountability of the Government for the citizens and why it was necessary to create the Forest Service in 1905, or explain to a district ranger what it was like to be in charge of several hundred thousand acres.

Three of these living history volunteers—Tony Farqué, district archaeologist; Jim Denney, facilities engineer; and myself, Steve Coady, visitor contact work on Oregon's Willamette National Forest. Although we aren't always able to work together, when we do, it can be an event you won't soon forget. Tony portrays Gifford Pinchot, the First Chief of the Forest Service, as well as some other characters. Jim portrays Theodore Roosevelt—cowboy, naturalist, conservationist, president, and prolific writer. I portray Ranger Corley B. McFarland, who worked on the old Cascade National Forest (which later became part of the Willamette) from 1909 until his retirement in 1946.

The period of time that I, as McFarland, work in is the 1920s. Since many events were unfolding at the time, not only on this forest but all across the Nation—railroad, timber, trails, automobiles, electricity, and telephones, and, of course, Prohibition (stills/moonshiners)—this was a dynamic period in U.S. history. While I am the newest member of the "troupe," having been with it for the past 9 years, I, by no means, have been standing still. Since being assigned "the ranger job," I've been a quick-study in my research and in collecting "a ton of gear." It's the research and collecting that enable Jim, Tony, and me to bring to a presentation the reality of what the person's experiences were, as tempered by other factors that influenced the character. In addition, we bring the audience close-up three-dimensional views of items that would otherwise be seen only in a museum under glass—items that cover a diverse spectrum, including official pieces such as a 1905 *Use Book* and other agency manuals; work-related pieces such as timber scribes; a Stonebridge folding lantern; and personal items such as shaving gear, first aid kits, and enamel ware dishes.



USDA Forest Service

Tony Farqué (Williamette National Forest as First Forest Service Chief Gifford Pinchot.

USDA Forest Service

Steve Coady, (Willamette National Forest) as Ranger Corley B. McFarland at Union Creek, OR—Rogue River National Forest.

USDA Forest Service

Steve Coady as Ranger C.B. McFarland visits another *History Line* favorite, the Walker Mountain Lookout with Deschutes National Forest Archaeologist Leslie Hickerson, in uniform.

Subjects of our presentations range from what types of work a ranger performed, to conservation, to what the creation of the forest reserves really involved; but we always present with the flexibility to temper the subject depending on the audience. In return, visitors leave with a truer sense of actually coming face-to-face with the Forest Service of days gone by.

One of the true golden moments in late 1999 was meeting Gifford "Sandy" Pinchot III, not once, but twice. We met Sandy while we were at the Gifford Pinchot National Forest, as part of the 50th anniversary of its name change from the Columbia National Forest to the Gifford Pinchot National Forest. Tony, Jim, and I are looking forward to the coming centennial in 2005 and visiting as many forests as possible to introduce employees, as well as our public, to the rich legacy of the Forest Service.

USDA Forest Service

Richard McClure, Tony Farqué as Gifford Pinchot, Steve Coady as C.B. McFarland, and unknown Gifford Pinchot Forest volunteer at the 50th anniversary of the name change of the Columbia National Forest to the Gifford Pinchot National Forest.

Sophie's Cabin: A Work in Progress

By Carol Ray (Historian) and Rebecca Timmons (Archaeologist), Kootenai National Forest

Trader, entrepreneur, rancher, daughter and wife—these words describe Sophie Morigeau, whose life has become legend on the Kootenai National Forest. Other colorful terms from historical sources describe her as a wily Indian woman, a rich bootlegger, a handsome woman, quick of wit, and indomitable. Much folklore and some fact about Sophie's life are available in both historic annals and local stories. Either way, there is an intense fascination with her story.

Sophie was born around 1835 to Elizabeth (Isabell) MacTaylor, a woman of Indian and Scottish or French descent and Pichinna Finley, "native" trapper. Sophie was raised in the household of Francois Morigeau, a French Canadian fur trapper and free trader. At some time, Finley had traded Elizabeth to Morigeau, and together they had several other children. Sometime after 1843, Morigeau moved his family to a farm in the Colville Valley (in what was to become the State of Washington) near the Hudson's Bay trading post of Fort Colville. Sophie stayed at this location until she began her life as a trader in 1863. She was married at least once and lived with numerous others.

Sophie was a woman caught between the worlds of Indians and Europeans and the worlds of men and women. She was baptized in 1838 by the Jesuit priest, Father Demers, who lived in the Colville Valley. She was raised in the ways of an Indian woman and introduced to the world of trading by her father and brothers. She was a tough and tenacious woman who could function admirably in most situations, using her knowledge of native customs to further her own ends.

Stories include explorer Alex S. Hill's account of Sophie's "toll" business on fishing. If fishermen wouldn't pay, she waded into the water and splashed the fish into hiding. Another account of visitors to her cabin describes seeing human ribs dangling from the ceiling tied with a pink ribbon. They supposedly were Sophie's ribs that she had extracted to remedy an ailment.

Alexander Stavely Hill

Sophie Morigeau (woman dressed in black on the far left).

During the Wild Horse Creek gold rush in Canada, Sophie ran pack strings with trade items. She established a post in Canada (1872), a second cabin on Indian Creek (Eureka, Montana) in 1880, and the third fort brought her onto the Tobacco Plains (Eureka, MT) in 1884. She lived and traded at this location until 1915. She died in 1916, and her grave at the Tobacco Valley Cemetery is still lovingly cared for by local residents.

Sophie's cabin is helping to reveal portions of her life to Forest Service historians and archaeologists. References made to Sophie in various historical accounts, combined with the artifacts collected, will help us interpret her intriguing past. Because looters have long stolen artifacts from this historic site, the Corps of Army Engineers has funded research work to help recover information.

More information on this project will appear in future issues of *History Lines.*

Alexander Stavely Hill

Sophie Morigeau's trading post on the Tobacco Plains, Eureka, MT.

1906 Fireman's Cabin Restored

By Libby Langston, Lolo National Forest

The job of locating and fighting fires changed tremendously during the 20th century when high technology became second nature.

But what were Forest Service employees faced with before they used helicopters and airplanes to detect and control fires? To find out and to see first-hand, visitors are traveling to Sliderock Mountain on Montana's Lolo National Forest.

Situated on the ridgetop at an elevation of 7,820 feet, Sliderock fireman's cabin and lookout tree border the Lolo and Beaverhead-Deerlodge National Forests with a panoramic view to the west overlooking the renowned fishing stream of Rock Creek.

Built in 1906, the cabin and lookout tree are the last coexisting pair left in the Northern Region. Located on the same ridge in close proximity is another fireman's cabin built in 1928. This structure was used in conjunction with a much newer, 1930s vintage L-4 lookout tower. In 1980, the L-4 tower was relocated to what has just become the National Museum of Forest Service History.

Not maintained for almost 20 years, the Sliderock cabin was in desperate need of help. Former Missoula Ranger District employee Jack Fisher, now retired, and working as a Forest Service volunteer, helped initiate the restoration project. Several summers ago, under his tutelage, 11 volunteers and several Lolo National Forest employees pooled their talents to bring the rustic 1906 cabin back to its original condition.

Local volunteers Ed Heilman, Russ Royter, Kathy Johnson, Ellie Sigrist, Jack Puckett, Beth Lemire, Tom Reese, and Correen Faulkner, coordinated by the Lolo National Forest's Libby Langston, contributed to making the project a success. The group replaced several windowsills and wall logs, and installed a new roof, a floor, a door, and windowpanes. Volunteers Emily Langston and Joyce Garrett from Atlanta, GA, kept the group well fed with Southern-style breakfasts and dinners.

The 1906 fireman's cabin is now restored and stands alongside the lookout tree. The site is accessible in the summer and by four-wheel drive vehicles throughout the year. To compare and contrast the old ways of fire detection and dispatch, the hike to Sliderock is well worth the trip.